

FOUNDATIONS OF
THE MEASUREMENT OF VALUES

*THE METHODOLOGY OF LOCATION
AND QUANTIFICATION*

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PREFACE

MY CONCERN with measurement seems to have arisen quite logically from a concern with the selection and creation of educational techniques to bring about the maximum development of children. I early found myself in the dilemma of sponsoring an education program which based its claims particularly on its ability to develop character and personality, and yet was without valid means of measuring success in this area. While the situation with respect to existing tests and testing devices is that there are a large number of subject-matter achievement tests which have proved themselves to be quite valid, few, if any, character and personality tests have established sufficient validity. It seemed necessary, therefore, to undertake research in this area.

That the research took the form it has is due partly to the influence of several departments of Teachers College, Columbia University, in each of which I did a considerable amount of work. My first study in the validity of testing was done under the sponsorship of Professor J. R. McGaughy, then chairman of the Department of Elementary Education. I owe much to Dr. McGaughy and to other members of that department for the help they gave me in clarifying my educational concepts to the point where I could begin independent research. Anyone who reads this study will, I am sure, see in it the influence of three members of the Department of Philosophy of Education: Professors William H. Kilpatrick, R. Bruce Raup, and John L. Childs, for whose inspiration I shall always be grateful. Dr. Helen Walker and Dr. Irving Lorge contributed a great deal to my understanding of statistical research, while Professor George W. Hartmann of the Department of Educational Psychology sponsored the dissertation and patiently saw it through its years of growth. To all of these I owe deepest appreciation. Thanks are also due to the several schools and groups of persons who cooperated in the experimental investigations undertaken. In each case, the subjects proved most willing,

while the administrators who granted permission were exceedingly helpful in arranging for time and place where the experiments could be performed.

BERTHA B. FRIEDMAN

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FOUNDATIONS OF
THE MEASUREMENT OF VALUES

CHAPTER I

THE PURPOSE AND THE PROBLEM

SEVERAL FACTORS have in recent years combined to give increased momentum to the construction and use of character, attitude, and interests tests. One of these has been the reshift in emphasis from intellectual training to character development as the main objective of the schools; another has been the trend back towards some form of dynamic rather than mechanistic theory of behavior. A third factor, paradoxically enough, has been an atomistic and more or less mechanistic conception of a human being as made up of a set of specific traits accessible to observation if instruments could be devised to bring about their manifestation. The development of the theory of psychophysical measurement, particularly its extension by Thurstone into the field of attitudes, has been a fourth factor leading to an increase in the popularity of attitude-test construction, for test makers were here supplied with a simple, if at the same time laborious, technique. Lastly, educators have begun to lose faith in the idea that the cramming of knowledge into the heads of youth will bring forth a generation able and ready to live the principles of democracy in a complicated world that is as disunified as it is interdependent. Those interested in democracy have therefore also become interested in character training, in the growth of personality, in the development of tendencies towards one kind of behavior rather than another.

Necessarily, this concern with behavior as well as with knowledge leads to several avenues of research. Inquiry must be made as to how character develops and what can be done to influence that development. Inquiry must also be made as to what the character is that has so far eventuated. What is it that motivates the student's behavior? Has he relatively permanent motivations? Do his seemingly temporary motivations get their character from the more permanent ones? It is this latter line of inquiry, the determination of the status of the individual's motivations, that focuses the investigation undertaken in the present study. The

word values, however, is being substituted for the word motivations, not that the two terms are completely synonymous, but because in a very real sense one may say that our values are our motivations. The location of values then becomes the location of motives, with this difference. Motives are usually thought of as functioning with respect to some particular situation. Values can be "carried around"; they become part of the person. When strong enough, they cannot be differentiated from the self; they are what makes up the self. And in any particular situation they play their part because the self plays its part. Since all behavior is interaction between an organism and an environment, values play their part in every behavior. One must know how much any one value has become a part of the self before one can judge to what extent it will condition the behavior in any specific situation where it is possible for that value to enter.

But what does being more or less a part of the self mean? There is no way of examining the self, as a self, and laying it bare to look at its parts and integrations. All we can examine is behavior, including in behavior those things that a person says. We must, then, search for what, in behavior, corresponds to this greater and lesser degree of the self. The problem of finding out whether any one thing, simple or complex, is a part of the self at all, no matter how small a part, is the problem of the *location of values*. The problem of finding out to what degree it is a part of the self is the problem of the *quantification of values*. The methodology of value-measurement must be concerned with both these aspects.

It is seen that the purpose of the inquiry undertaken in this study differs sharply from writings on value-theory and ethics, though some of the same problems will be considered. Here the search is for ways of improving the educator's means of guiding the conduct of his students. All education, looked at from the viewpoint of its deliberate attempt to affect conduct, is guidance. Since the direction of conduct is based on one's values, conscious or unconscious—the latter may never have risen to consciousness or may have sunk into routine habit—it would be of great service to the educator to be able to determine the values held by an individual, the objects which motivate him to action on their behalf or which change (qualify) his action on behalf of other objects. The writer is undertaking a search for instruments which will do this to a useful extent. It is a search for methods of obtaining data which are important for any educational program, but it is not concerned directly (that is, as part of its investigation) with

the aims of that program. There will therefore be no listing of values which are to have a claim on the objectives of all schools of a particular society, or of any single school. To state it precisely, no map of values will be set up. Moreover, our concern will be not with the *valuable*, but with the *valued*. The statement *A values X* is the one upon which attention will be concentrated. In other words, what we shall try to get recorded is not *valid* values but *held* values.¹ This is comparable with trying to get recorded on achievement tests held information, not necessarily valid information. Once we have the recording, we may apply standards of validity and truth to the data we have obtained; but the function of the value-measuring instrument itself is not to validate values but to record them.

Sufficient dissatisfaction is felt with the majority of present attitude and interest tests to limit their use to research rather than to the practical management of educational affairs. In some quarters, however, and increasingly of late, serious use is being made of instruments of doubtful validity, doubtful not only because those constructing the instruments grounded them on psychological theories not acceptable to others (it has already been stated that construction was accelerated by the views of both dynamicists and mechanists), but also because little attention was paid to the theories upon which the tests rested, or to the means used to validate the test in those cases where some attempt at validation was made. With the increasing use of attitude, interest, and value tests comes an increasing need for appraisal more foundational than the periodic summaries given them in psychological journals.

However, instead of making the starting point of the present study a critical appraisal of the tests and testing devices already on the market, it was considered more advantageous to begin back at the conceptual foundations of that which was being measured,

¹ The linking of value and motivation makes impossible the restriction of the term *value* to verified goods, as used by John Dewey. Boas emphasizes the fact that non-verified, "illusory" beliefs and values are as strong motivators as the "real" things. "Though the technique of refusing something called 'reality' to the troublesome is traditional in philosophy, the unreal usually turns out to be just as efficacious as the real thing in stimulating behavior. The most orthodox Christian Scientist has to admit that unreal matter and unreal pain and unreal evil and all the other Plotinian unrealities do just as much harm as if they were real, and the toughest materialist has to admit sooner or later that the illusion of values proves as powerful a kinetic force as billiard cues and pistons." (George Boas, "Habit, Fact, and Value," *Journal of Philosophy*, 36:526, September 14, 1939.)

working towards a definition of terms communicable to the reader, and logically erecting a framework upon which value-testing instruments could be built. Furthermore, since the writer was limiting her interest to those phases of personality tests where they were synonymous or overlapped with tests of motives or values, it seemed unwise to start by classifying all existing personality tests, no matter how named, as value-tests. It seemed wiser to include an appraisal of existing tests only at those points where factors in their construction made them illustrative of the problems under discussion.

In every attempt to erect a framework upon which to build measuring devices to locate and quantify values in an adequate manner, we must contend with the necessity of prediction. Our purpose is to know not only what conduct *is*, but what conduct *will be*. Education is always interested in future conduct as well as present. All tests, of course, show only present conduct. On what basis do we then make our predictions? Will our measurements be of any value for our purposes? How do we take the step from description to diagnosis? Any diagnosis, whether medical, educational, or characterological, is made with a fundamentally future reference. It is always predictive. The better the prediction, the better the diagnosis. The doctor does not merely describe the child's symptoms; he predicts the course of the ailment, that is, the future behavior of the child. To do this he not only has to have instruments which give him certain data; he also has to know the meaning of the data. To be of any use, the doctor's instruments have to be capable of accurate recordings which will have valid meaning in terms of the purpose for which the instrument was designed. So also with any instrument designed to measure values. It must record accurately those data which will bear upon our purposes. The first task of anyone attempting to design measuring instruments is therefore to set forth clearly the purposes for which he wishes to use those instruments. He may then begin the creation of the instruments themselves.

From the foregoing it is obvious that our major interest in the creation of value-measuring instruments is the obtaining of data which will help us to predict conduct. The very use of the word values implies the future tense. "These are my values" has a future reference that the statement "I am tired" has not. For this reason it is often said that one cannot measure values. The difficulties of such prediction must be taken into account when in-

struments are being constructed. The possibilities of prediction must as conscientiously be searched for.

We could have stated the problem in terms of achievement rather than in terms of prediction, for the majority of present courses of study begin with a list of values that are to be acquired by the students. Moreover, educational philosophers continually speak of the "attaining" of values. Value-tests might thus be looked upon as achievement tests of a particular subject matter. But this would not rid us of the difficulty with regard to prediction. For, as already implied, all such tests are predictive. A test of spelling achievement is not meant merely to tell us that John has spelled the word "receive" correctly. It is also meant to predict that in the future John will spell the word correctly. A test measuring the amount of arithmetic learned also predicts that the arithmetic will stay learned, at least for some time and more or less to the same degree, by all students. Achievement tests might be better tests if, in their construction, the fact were taken into account that there are differences in the rate of forgetting, and that some ways of present knowing make for more permanent knowledge than do other ways.² But the fact that there is forgetting, that there are differences in the rate of forgetting, and that there is also remembering the facts differently, does not invalidate the whole achievement-testing movement. Similarly, the fact that values change does not deny the possibility of value-measurement.

It might also be stated that the measurement of values is an attempt to describe and measure traits, since it is wholly acceptable to think of values as traits. But this would no more get us out of our difficulty of reckoning with prediction than would the concept of achievement, unless we believed that traits were some kind of permanent entities residing within the body. The present inquiry starts with no such psychological premise. It is already evident, however, that it does start with certain other premises, which it hopes to examine as the investigation proceeds.

At this point, some effort must be made to particularize the need which the school has for measuring values, though many of the uses to which value-measuring instruments can be put will be clear only at the end of the investigation. The school wants to measure values because we want our children as they grow up to have as satisfactory a life as possible, a life which will at the same

² See B. O. Smith, *Logical Aspects of Educational Measurement*, Chap. VI.

time be compatible with educational methods and procedures which we believe will bring them to the richest adult life that we can conceive. Therefore we wish:

1. To give them all the satisfactions of their today's values which we can discover and which are compatible with our other aims.
2. To help them to strengthen those of their present values which fit in with our picture of them as they grow to adulthood.
3. To help them to erase those values which are incompatible with that picture.
4. To help them to add and develop new values which we consider desirable for them to have.
5. To help them learn to evaluate their values so that their growing body of permanent values will be criticized values.
6. To get a picture of the children's values at intervals in order to see how well they and we are progressing in respect to numbers 1, 2, 3, 4, and 5.

In all of these we have to locate and measure values. We do not want all children to have all values in the same amount, and a rough estimate of their values may serve our purposes very well. Some desirable values we want to make sure that the children possess in a very high degree, and most writers assert that the extreme degrees of value are easy to locate. Though we start with full appreciation of the numerous difficulties involved in any attempt to find means of measuring values, and with the expectancy that the means which will be found may have limited worth both because of the inadequacy of our knowledge in this field and because of the factor of contingency in human life, we also start with some hope of finding means which will be better than the teacher's guess as to what her students' values are. If there are no value-tests, such guesses will have to serve as data for this important aspect of the educational task.

As a matter of fact, the major part of the doubting is with respect to the common type of verbal test which many believe has little possibility of ever becoming an adequate value-measure. But the fact that we can tell what the values of others are has often been affirmed. Measurement does not mean only pencil and paper test-

ing or testing in a laboratory situation. Our eyes measured time by watching changes of light and dark, or the rising and setting of the sun, long before any kind of timepiece was devised. It was out of this conception of time and quantity of time functioning in experience that timepieces could be constructed which do measure time more easily and more accurately. However, the experiential concepts (understandings and meanings) had to come first. Our investigation of the measurement of values must also begin back in the functioning context of life, not of the laboratory. We must study valuation in the ongoing life of human beings, must see what it means to say *A values X*, and what it means further to say that *A values X* to this degree, or more than *B values X*, or more than *A values Y*. If valuing is an activity of the organism, we must find out how this activity lends itself to observation and denotation and description. When this task is finished, we may go on to more controlled observation, or to the manufacturing of special situations which will produce behavior of the wanted kind for observation and measurement, so that we can get this behavior when we want to observe it rather than having to wait for it to occur.

It is appropriate now to turn to a consideration of those conceptions a clear understanding of which is vital to adequate value-measurement. Before proceeding with the problems of location, and of quantification of values, it is necessary to define clearly what the term value is to stand for, to justify the choice of this term for this conception, to bring forward the value-theory on which the study is based, as well as the theory of motivation which allows such close linkage between values and motives. It is expected that as we proceed many more problems will be raised than are answered, but it is hoped that the material provided will open up fruitful avenues of inquiry and experimentation.

CHAPTER II

THE UNDERLYING THEORY OF VALUE

OUR FIRST LINE of discussion will be a consideration of various value-theories for the purpose of moving towards one acceptable to the writer and compatible with the emphasis on motivation which is accented as integral to value-measurement. Repetition of the statement that values have motivating force might lead the reader to infer that the writer leans towards the belief that there are objectively existing values which exert an attraction upon human beings. This is far from being the case. When it was stated previously that the concern of this inquiry would be with the meaning of the statement *A values X*, the form of this phrase implied that the primary meaning of the term *value* would be derived from the verb. In putting one's emphasis on the verb "to value" and stating one's concern to be with the location of the objects of that verb, one could claim to be outside the traditional value-theory arena of controversy. Indeed, so long as the argument did not concern itself with "false values" and "true values," that is, with ethics, nor yet with the "primary source" of all value, the value-theory of the writer might be said to be irrelevant to the discussion. Nonetheless, the purpose of the undertaking and the definition of value in terms of the *valued*, rather than the *valuable*, the *desired*, rather than the *desirable*, are much more congenial to one class of theories than to another, and to certain theories within that classification than to others. Furthermore, this study can draw upon ideas elaborated within those systems and use them to build up its own framework.

Classification of Value-Theories

Value-theories have been classified variously by different writers, but an examination of the classifications shows that most writers aim at the same distinction for their fundamental division. Put in simplest terms, this distinction is according to whether the theory

claims that value exists independent of persons, or whether value is considered to arise only because of human beings. Goblot,¹ for instance, says that we can think of that which is "bon par soi," and that which is "bon pour une nature déterminée." The thing which is "bon par soi" has value because of its own excellence. It is not only good universally for everyone because all beings have need of it, but it would continue to be good even if there were no creature who valued it, apparently even if there were no creatures at all.

Clarke² tries to get an antithesis which best illustrates the effect of psychological bias on the theory of value, and so classifies according to the terms subjective and objective, using subjective for those theories which say that value has its source in "some attitude of a subject to an object," and objective to refer to the claim that value is a property of objects or else a relation of objects to each other, but that there is no relationship to any subject. Feeling that all theories do not fit neatly into this twofold division, Clarke adds a "neutral" category for those theories which consider value a quality of objects as related to subjects. This third category, however, seems not to be very clearly separated from her subjective category.

Perry³ makes a fourfold division according to whether and how the theory is related to the concept of interest around which his own value-definition revolves. According to this author, value may be:

1. Irrelevant to interest.
2. The character of an object "implies, evokes, or regulates interest." The value is there, in the object, and it brings forth interest, but it is not the result of interest.
3. The object of "duly qualified interests such as the final, harmonious, absolute or imperative interest."
4. Attached to all objects of all interests.

Since interest is conceived by Perry in terms of a person who is *interested in*, we again get the division of theories according to the criterion of whether or not they hold that value exists because of, or irrespective of, human beings, with the first two categories

¹ Edmond Goblot, *La Logique des Jugements de Valeur*, pp. 6-7.

² Mary Evelyn Clarke, *A Study in the Logic of Value*, pp. 45 ff.

³ Ralph Barton Perry, *General Theory of Value*, Chaps. II-V.

belonging to the objective division, the last clearly to the subjective, and the third more subjective than objective but leaning towards the objective at certain points.

Where there is a different type of classification, attention still centers on how the various categories made are, or are not, related to the "valuing" of human beings. Laird,⁴ for instance, speaks of elective, appreciative, and timological theories, and in connection with each raises the question as to the relation of man to value as conceived by that theory.

There is no need to go further to make evident which class of theories we can look to for help in getting a definition useful for the task at hand. But we may narrow our group still further by eliminating all those value-theories which, though they relate value to human beings, do not relate it to that which each individual values or judges to be of value, but to some criterion which is posited as the apex of value and the standard which validates what is, and what is not, value.

This supreme end differs with different writers. It is well to go into these theories somewhat carefully, because we shall find later that they have direct bearing on our choice of criteria for quantification. Because the purpose of this discussion is not a critique of value-theories but an endeavor to arrive at some meaningful content for our own definition of value, I shall oversimplify these gauges which claim to separate true values from false. As set down, they do not necessarily represent the opinions of any particular writer.

1. Those things have value which bring man into conscious relationship with the Supreme Being, or which fulfill the Supreme Being who is the Supreme Good.
2. Those desires of men have value that are in accord with nature.
3. Those desires and valuing of men have real value that are harmonious with each other.
4. Those things have value which lead to progress.
5. Those things have value which lead to a further perfection of man's capacities.
6. Those things have value which realize the total self.

⁴ John Laird, *The Idea of Value*.

7. Those things have value which realize the total rational self.
8. Those things have value which realize the will of the community.

*Acceptable and Nonacceptable Elements for the
Underlying Theory*

An analysis of the foregoing statements shows the following beliefs, to none of which can one subscribe if value is thought of in terms of motivation.

1. For an object *to have value*, it does not have *to be valued*.

The present study, on the contrary, limits the term value to those objects which are valued by a specified individual.

2. The standard which discriminates value from non-value, or true value from false value, for any particular individual can be applied just as well by an outsider as by the individual himself.

Picard⁵ differentiates between value from the standpoint of the one who values, the agent, and value from the standpoint of the spectator or observer who, from some "high plane" (such as any of the above criteria), judges what is of advantage to the man. The eight value-theories listed above can be called "spectator" theories. In contrast, the emphasis of any definition of value which concentrates upon the verb must be upon the agent.

3. Values are structured into a hierarchical system with a definite apex, or else the system is such that there is only one intrinsic value and all the others are merely instrumental to that one and receive their value from it.

The present study does not start with any such assumption of a hierarchy, of a single end, or of a fixed end, whether for all of humanity or for any single individual.

⁵ Maurice Picard, *Values Immediate and Contributory and Their Interrelation*, p. 34.

4. Following from the above theories, the important, meaningful value-judgments would be those that Perry⁶ calls "judgments of attribution where the attribute itself is already defined," and where it may be "independent of the author's personal bias," even though it may relate to him.

In such a case, if one said that X is valuable, this judgment would tell nothing about the preferences of the speaker. In contrast to this viewpoint, the value-judgments we shall be concerned with will be the expression of personal preference.

So much for value-theories that do not relate value directly to the valuing of the agent. However, there is still another set of theories which do not wholly fit in with the present purpose. These state emphatically that value ultimately rests upon the valuing of the individual, but they restrict the word value to only certain objects that he values. There is some similarity between these theories and the ones just listed, particularly those which refer to the self, or total self, or rational self, as the criterion of value. The difference lies in the assertion that nothing is of value to a person unless he values it. However, there is a further important claim that though this is a necessary condition of value, it is not a sufficient condition.

Two quotations from Dewey will illustrate this position:

But the notion that every object that happens to satisfy has an equal claim with every other to be a value is like supposing that every object of perception has the same cognitive force as every other. . . . There is no value except where there is satisfaction, but there have to be certain conditions fulfilled to transform a satisfaction into a value.⁷

Values (to sum up) may be connected inherently with liking, and yet not with *every* liking but only with those that judgment has approved. . . .⁸

Just what content and connotations a word is to have, in how general or how restricted a sense it is to be employed, can well be left to the one who makes use of it, provided he clearly communicates his definition to his reader so that both will be dealing with the same referent. Because it is the purpose of the undertaking which partly colors the definition, we find the term value defined

⁶ Ralph Barton Perry, *General Theory of Value*, p. 18.

⁷ John Dewey, *The Quest for Certainty*, p. 268.

⁸ *Ibid.*, p. 264. Cf. Ray Lepley, "The Dawn of Value Theory," *Journal of Philosophy*, 34:367, July 8, 1937. ". . . not all goods (desires, impulses, interests, or satisfactions) are values; values are relatively verified goods (and evils)."

very differently by people who have different values and intentions, particularly since all philosophical writings are really essays in persuasion. Dewey⁹ contends that a theory of value must be a theory of criticism, and in his last work in this area he calls his theory of valuation an "outline of a program."¹⁰ Over and over again he admits that value may be used for "valuing" and for "evaluation," but it is only when used in the latter sense that it will serve his purpose of finding out how valid values are instituted.

Because the nature of definition is such that the specific definition is always a function of the purpose for which it is being made, there is one more excursion we must make before we can finally settle down to gathering up the vague statements of definition made thus far, add body to them, and weave them into a clearly patterned definition that will have the characteristics this study of measurement requires. This is the excursion into theories of motivation, since the definition of value is to be so closely linked with the concept of motivation.

⁹ John Dewey, *Experience and Nature*, p. 398.

¹⁰ John Dewey, *Theory of Valuation*, p. 51.

CHAPTER III

THE UNDERLYING THEORY OF MOTIVATION

Prediction and Theories of Motivation

LINKING THE definition of value to the concept of motivation necessitates an analysis of theories of motivation at those points where the two concepts are integrally connected. One of these joint veins is the feature of prediction. Theories of motivation concern themselves with what moves the individual to action. Though considered primarily as efforts to explain behavior, they are also efforts at generalizations useful for the control of behavior, and therefore efforts at prediction. For there is no possibility of control unless there is some possibility of prediction.

The majority of motivation theories deal with the "cause" of action, or with the causes when the theory is pluralistic. At one time, the interconnection which must exist between at least two events before there can be any prediction was always thought of as a relationship of cause and effect. Today, the idea of cause and effect is giving way to the concept of correlation. To say that a correlation exists between two events is to state that there is a relationship without describing what kind of relationship it is. Thus if *A* and *B* are correlated, it may be the case that:

A precedes *B* in temporal sequence, or
B precedes *A* in temporal sequence, or
Whenever and wherever *A* occurs *B* occurs, or
Whenever and wherever *B* occurs *A* occurs, or
Whenever and wherever *A* occurs *B* occurs but
B sometimes occurs when *A* does not, etc.

Neither *A* nor *B* is necessarily conceived as being the cause of the other, since such an assumption is not essential for prediction. The statement of correlation gives no "explanation" of the fact of interconnection. "Causal" motivation theories, on the other hand,

have attempted such explanation, and these explanations are tied up with the desire of being able to predict. The fact of correlation can be found only through repeated observation of both the events which occur in connection with each other. But oftentimes, all we have is one event whose occurrence has been observed with respect to many persons. If we have only one event there is no possibility of prediction *unless we universalize that event*. This, in fact, is what many of the motivation theories do.

Various Theories of Motivation

The *instinct theory* of motivation, for example, is such a theory. Are not the majority of the instincts considered to be universal instincts? If the pattern of behavior is universally given at birth, then you not only have an "explanation" of events, you can also predict that they will occur. The fact of nonoccurrence of behaviors which were supposed to depend on such instincts has led to constant revisal by various psychologists of the "true" list of instincts.

When instincts fell into disrepute, the *biologic-drive theory* of motivation became very popular. Here all one had to do was to list the biological drives such as hunger, thirst, sex, etc. All conduct, it was thought, could be described in terms of an effort to satisfy these drives. Measurement of motive was measuring which of these drives was stronger than the other. Usually, but not always, the hierarchy of drives was considered to be the same for everyone, or, at least, for the vast majority. Generalizations from animal experimentation were carried over to the human plane.

We may take Tolman's earlier work as an example of a theory of drive based upon observation of animal behavior extended to include a theory of human motivation. At that time Tolman expressed himself thus:

" . . . ultimate motivators of all behavior . . . are, we assume, certain innately provided appetites and aversions. These consist in ultimate demands to get to final physiological quiescences (appetites) or from final physiological disturbances (aversions) . . . Furthermore, he [the organism] is provided innately with certain more or less vague sign-gestalt-readinesses as to how to get thus to or from.¹

Again he says:

Such innate sign-gestalt-readinesses, with the accompanying appropriate demands, we shall designate from now on as the ultimate or fundamental drives.

¹ Edward Chace Tolman, *Purposive Behavior in Animals and Men*, p. 287.

These fundamental drives provide, we shall suppose, the primordial bases for all behavior. All the various specifications and elaborations of motivation, which appear in adult and experienced organisms are to be conceived as but refinements, modifications, or elaborations built up upon such more ultimate, innate readinesses or demands.²

Closely related to the instinct and the biologic-drive theories of motivation is the psychoanalytic theory of drive. Though it depends upon the particular school of psychoanalysis as to which drive is chosen, a certain drive, or set of drives, is universalized as the cause of all behavior. Freud gives primacy to the sex drive, Adler to the inferiority feeling or "the goal of superiority."

To simplify, without distorting, the psychoanalytic theories, we may describe them as holding to universal instincts or drives which every organism has at birth, the particular pattern of their expression, however, being created and fixed after birth in the very early years of life. Allport terms these psychoanalytic theories "exaggeratedly genetic dogmas holding motives and character to be set for all time in early childhood."³ That Allport himself is not exaggerating is shown by Adler's assertion that "patterns of life are usually fixed by the time a child is five or six years old."⁴

At first glance it would seem that the psychoanalytic theories allow for a wide variety of behavior patterns and should, therefore, not be classed with the instinct and biologic-drive theories. However, all these theories are similar not only in their claim that there are original motive forces which are fixed and universal, but also in their contention that all conduct is patterned by these original drives which it can never escape. There may come into being secondary motives, but these are never autonomous. They not only arise from primary motives but they remain attached to them. As soon as they lose this connection, if they do, they no longer have motive power.

Present conduct is thus viewed as a sort of camouflage having an "irreal" character. It is only a "rationalization," or an "escape mechanism," or a "sublimation." The ends that the organism outwardly pursues are not his real ends. His real ends can be seen only by psychoanalytic digging deep into the subconscious. It is not very difficult to predict what will be dug up since that is already present in the working presuppositions of the psychoanalyst.

² *Ibid.*, pp. 271-272.

³ Gordon W. Allport, "Liberalism and the Motives of Men," *Frontiers of Democracy*, 6:13, February 15, 1940.

⁴ Alfred Adler, *The Pattern of Life*, p. 19.

Some quotations from writers already referred to, or to be spoken of shortly, may clarify the concept of reductionism. In a widely used textbook, Shaffer states that though habits, sentiments, and purposes are learned, nevertheless they "also function as springs of human action, but they do so *only through the operation of the 'lower' fundamental drives of physiological and emotional tensions.*"⁵

Tolman⁶ observing that even rats are sometimes motivated by other drives besides the physiological states which he calls fundamental drives, orders all drives into a hierarchy of first-order drives (the fundamental drives), second-order drives such as "curiosity, gregariousness, imitativeness and the like," and still a third order, for human beings, piled on top of the two lower orders of drives. These last he calls "personality mechanisms" and says that they are acquired. Tolman's second- and third-order drives are not just different classifications from the first. They are "subsidiary" to the first-order or fundamental drives. Though Tolman hesitates a little in going over to a complete reductionism of all drives to, or a dependence of them on, his first-order physiological drives, he nevertheless prefers to assume that this is the case for most individuals.⁷

Another variation of a single motivation theory is hedonism, a theory of value which takes pleasure to be the sole motivation of all conduct. In the traditional theory of hedonism, nothing ever has a demand value of its own. It functions only when it has been reduced to the quantity of pleasure or pain that it will bring the organism, and those things are preferred which bring the most pleasure or the least pain. This is one of the most difficult reductionisms to deal with, since experience will affirm the close connection between our motives (ends, values) and pleasure, especially when the type of hedonism put forward does not limit pleasure to physical sensation.⁸ What must be distinguished, one from

⁵ Laurence Frederic Shaffer, *The Psychology of Adjustment*, p. 111.

⁶ Edward Chace Tolman, *Purposive Behavior in Animals and Men*, Chap. XIX.

⁷ *Ibid.*, p. 292.

⁸ Bentham lists as the four sources of pleasure—the physical, the political, the moral, and the religious. And under these categories he speaks of the pleasures of a good name, the pleasures of skill, the pains of the imagination, etc. (Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation*, Chap. III.)

Gardner Williams, who defends the hedonistic theory says of pleasure-pain. This is a mental process without special sense organs. I do not mean by it tickle, itch, thrill, ecstasy, excitement, cutaneous pain, or any sensory aspect of experience. It is an ultimate way in which configurations of experience differ. (*The Human Perspective, Being an Interest Theory of Value*, p. 5.)

another, are the idea of pleasure as the sole end of all action, the concept of pleasure as the accompaniment of value, and the terming of a satisfactory state of consummation as pleasant. If the pleasure principle of hedonism is attenuated, as it sometimes is, to such an extent that pleasure becomes equivalent to a satisfactory attainment of ends, then no theory of value which considers values to be synonymous with ends can escape being hedonistic.

The confusions involved in hedonism, even when its main principle is confined to the concept that pleasure is the sole end of action, are well illustrated by the contradictions and inconsistencies to be found in the writings of one of its classical proponents, Jeremy Bentham. In fact, the whole ethic of utilitarianism (which is based on hedonistic principles and was expounded by the English hedonists themselves) is a contradiction of psychological hedonism. For example, Bentham asserts in the opening sentences of his treatise that psychological hedonism (pleasure-pain as actual motive) is a universal fact while later on he denies that it is a fact but emphasizes that it *ought* to be, which is quite a different thing. Bentham proceeds to write a whole volume to persuade the reader to act upon the pleasure-pain principle. What a waste of time this exhortation would have been if everyone always was motivated by the amount of pleasure and pain the contemplated action might bring! Yet Bentham's statement of psychological hedonism is unambiguous:

Nature has placed mankind under the governance of two sovereign masters, *pain* and *pleasure*. . . . They govern us in all we do, in all we say, in all we think: every effort we can make to throw off our subjection, will serve but to demonstrate and confirm it. In words a man may pretend to abjure their empire: but in reality he will remain subject to it all the while.⁹

Bentham's definition of the principle of utility is also clear:

By the principle of utility is meant that principle which approves or disapproves of every action whatsoever, according to the tendency which it appears to have to augment or diminish the happiness of the party whose interest is in question: or what is the same thing in other words, to promote or to oppose that happiness.¹⁰

In spite of all this assertion that pleasure-pain is the universal

⁹ Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation*, p. 1.

¹⁰ *Ibid.*, p. 2. In a succeeding paragraph, Bentham lists as synonymous the terms benefit, advantage, pleasure, good, happiness.

motivating force, Bentham devotes the second chapter of this same volume to an exposition of other principles by which men have acted. In fact, he concludes this chapter by deploring that psychological hedonism is not a universal fact though it is evident to him that it ought to be:

The only right ground of action that can possibly subsist, is, after all, the consideration of utility, which, if it is a right principle of action, and of approbation, in any one case, is so in every other. Other principles in abundance, that is, other motives, may be the reasons why such and such an act *has* been done: that is, the reasons or causes of its being done: but it is this alone that can be the reason why it might or ought to have been done.¹¹

Besides this confusing of "what ought to be" and "what is," there is the assumption that the principle of utility can act as a guide to action by itself. This would lead us into such absurdities as no sane individual would endorse. If we are simply to go after what gives most pleasure and least pain, then it would be quite within the logic of the principle to inflict pain of a certain degree and for which there is a possible remedy so as later to enjoy the "pleasure of relief" (one of Bentham's list), providing only that the quantity of pain would be less than that of the ensuing pleasure upon the cessation of the pain.

One must include within the reduction theories the maturation theories which are combined with some of the heredity and biologic-drive theories. The maturation theories also fix all motives in the organism, but these motives are thought of as having different incubation periods, so to speak, and they are expected to appear as conduct only when they have matured. For prediction, the empirical work that these theories require is a list of chronological ages corresponding to the maturation level of the various instincts or drives premised. Progression through these levels of maturation is held to be similar and universal for the human race, though progress may halt at different levels for different individuals.

Piaget's¹² assumptions of the different age levels at which different concepts of justice have motivating power is an example of a maturation theory in a nonbiologic area. It is true that Piaget notes that the social environment of the child will influence the development of these motives of justice, but the influence is conceived as merely hastening the appearance of the motive or as

¹¹ *Ibid.*, p. 23.

¹² Jean Piaget, *The Moral Judgment of the Child*.

retarding it, so that one may expect it not at a specific chronological age, but only sometime within a certain age-range. The environment does not create the motivating concept of justice, it merely helps it spring into action, according to this viewpoint.

Another variation of the instinct theory of motivation is the conception of traits as fixed entities given in the organism. According to this particular school, however, traits may differ with different people. Peculiarly enough, these "native" personality entities correspond to the ideals which have emerged in social life and to the objects created by human invention. Thus there is a trait of honesty, and a person is "born" honest or "born" dishonest. He may be born with a passion for nature or with a passion for drink. For prediction, this theory requires that there be some empirical investigation of each individual, but once this has been done, the data obtained are good for the rest of that individual's life.

We have thus far classified into one nonacceptable group all those theories which fix motives in the human organism as already present there at birth but not necessarily manifesting themselves on the first day of the infant's emergence into the world. Included within this group have been the reduction theories, those which seek to reduce all motives to one or, at most, to several drives. Before analyzing more carefully the inadequacies of these conceptions, another group of motivation theories will be examined.

In contrast to theories which fix motives in the biological organism, there are theories which fix motive power in the world of objects. These objects produce certain behaviors on the part of individuals. I believe it is fair to place in this category the Watson theory of behaviorism, or the conditioned response theory, which acts on the premise that certain objects, sounds, movements, and so forth, all of which can be directly sensed, produce certain behaviors in the human organism the very first time they are experienced. These objects or events do not need to be cognized. No "meaning" need attach to them. It is the direct sensory experience of them that produces the particular behavior. Behavior towards other objects and events is built by associating them with these primary stimuli.

Also in the category of theories which fix motive power in the objective world must be put some of the "objective" value-theories to which reference was made earlier. Not all objective value-theories hold to a necessary "demand character" of the fixed and eternal values which they premise, and some grant this demand

character only to a limited degree. People may or may not be endowed, they say, with a valuing "sense" which permits them to perceive what these fixed and eternal values are. Those not so endowed are "axiologically blind." Laird, who believes that we are all endowed with axiological insight to a greater or lesser degree, states his position thus:

. . . I think, there must be a certain affinity or natural propinquity between objective values and the human soul, and it would be heartening to us if we could divine or discern some nuance or adumbration of this affinity. Yet may we not? Is it not possible to maintain that all excellent things have a certain rapport and elective affinity with one another, and that our minds themselves have a measure of excellence? We need not hold in consequence that all our psychic activities are excellent. For the corruption of the best may be the worst, and some small part of our souls may be worth all the rest. Nevertheless there may be (I think there is) this general connection and, if there is, why should the connection be other than rational?¹³

Again:

Timology is our insight into values; and we have this insight, often imperfectly, to be sure, but authentically, nevertheless.¹⁴

Not all philosophers who maintain that men are endowed with axiological insight agree that the perception of these values will lead to conduct which realizes them. Those that do hold to this latter view put their full faith in getting people to perceive the eternal values, for then, they believe, appropriate conduct will follow. Perry says that the objective view of value "must depend on some such thesis as that values make themselves known, or reveal themselves, by their power to excite will and feeling. They make themselves known by *moving*. Duty makes itself known by speaking imperatively to my awestruck will, beauty makes itself known by appealing seductively to my fascinated feeling. . . . There is a widespread belief that if a thing alleged to be valuable is exhibited to a subject, and leaves him cold, he cannot have found it valuable. This would seem to imply that in the case of value the finding of the evidence must itself take the form of an affectomotor response."¹⁵ Such a view accounts for lack of response to an objective value, but it does not explain the very strong affecto-

¹³ John Laird, *The Idea of Value*, p. 317.

¹⁴ *Ibid.*, p. 318.

¹⁵ Ralph Barton Perry, "A Theory of Value Defended," *Journal of Philosophy*, 28:460, August 13, 1931.

motor responses which men make to things which no man has yet classed as "eternal" values.

Inadequacies of These Theories

The instinct theory has often been held to be inadequate because it is tautological.¹⁶ Though the activities of animals are correlated with their structure, we gain nothing, thinks Dewey, by "inserting instincts to run, creep, swim, and fly between the structure and the act."¹⁷

It seems to me, however, that the charge of tautology is not justified. If it were, then instinct theories would at least be descriptions of behavior and, as such, would have some validity if not always great usefulness. There are three generalizing assumptions contained in the instinct theories which remove from them the charge of being nothing but a mere naming of activities. These are first, the idea of fixity; second, that of universality; and third, that of exhaustiveness. The concepts of fixity and universality have already been discussed. They lead to a neglect of empirical observation of particular individuals and of their behavior at a particular time. The concept of exhaustiveness restricts the area of this general perspective from which everyone is to be viewed similarly. Instinct theorists invariably claim that their lists are complete classifications of all the instincts. Thus, not only are the multitudinous actual behaviors of human beings fitted into these classifications in Procrustean manner, but when the classification is used as an instrument for the observation of ongoing activity, very many behaviors remain completely out of the range of focus and are utterly neglected.

As for the reduction theories, their inadequacy, which lies precisely in their reductionism, is manifold. First, they reduce all motives to such generalities that too little meaning is left for them to be of much use either in guidance or prediction or control. Consider Freud's reduction of all motives to sex. It is no wonder that he himself had to define sex in terms so broad as almost to alter completely the meaning of the term. The word became a catchall and its application to so many different behaviors led to a feeling of outrage on the part of those who use the word in its more popular restricted meaning.

¹⁶ John Dewey, *Human Nature and Conduct*, p. 119.

¹⁷ John Dewey, *The Public and Its Problems*, p. 11.

Or take Bentham's reduction of motive to pleasure. Bentham certainly did not mean merely pleasant physical sensations. Nor did his follower, John Stuart Mill,¹⁸ who agrees that virtue may become a pleasure. Pleasure thus becomes synonymous with desire¹⁹ and gives us no information as to what is desired. Second, some reduction theories do not point to any objects of the environment at all, not even to a class of objects. This is necessarily true of the single-motive theories. The theories which allow for a list of primary motives at least point to several classes of objects but they give no indication of what belongs in each class. Food is the class of objects pointed to by the hunger drive, but the theory cannot tell us whether grass, birds' nests, and beef do or do not belong in that class. There is a neglect of the fact that *particular* objects are sought after as well as *types* of objects. When the motive power of an object is seen only in its class character, there is the implication that most objects of any one class can be substituted for each other. This will not be found to be the case empirically. Third, reductionism, by removing from present conduct all characteristics except those which are descriptive of the primary motives, deduces that only those methods of observation which are valid for the "primary" motives are valid for any kind of behavior. Thus has come about the slogan of discard—discard the method of introspection, discard verbalized motives, discard conscious motives, discard intellectualized motives, discard ideals as motives. Find a method which will show you the primary drives or instincts functioning in stark nakedness, and only then will you have a true picture of events. It is like telling a doctor that the only way to get an accurate picture of the human body is through the X-ray machine, as if what is inside the skin were the only reality and the body as seen by the human eye or touched by the human hand had no reality at all.

A further difficulty with reductionism arises when motives are compared with regard to their "strength." A common pastime, particularly with those who set up these fixed categories, is to order motives into a permanent and single hierarchy. When it is believed that the large variety of objects which move us to action on their behalf do so only as symbols of the primary driving forces, then it is easy to make the error of assigning greater force to every

¹⁸ John Stuart Mill, *Utilitarianism*, Chap. IV.

¹⁹ "To think of an object as desirable . . . and to think of it as pleasant, are one and the same thing." (*Ibid.* p. 36.)

particular in one class as compared with any particular in another class which, as a class, has been set lower in the hierarchy. The truth of this assumption has not been found to have empirical universality. The fact of its nonuniversality must be recognized by anyone who seeks to measure the strength of motives, and the problem that this sets must be tackled along with the many other difficulties of quantification. Fifth, those who reduce all motives to certain primary motives imply, when they do not actually state, that the secondary motives are weaker than the primary. But if we are going to speak of primary motives and secondary motives, of the original and the acquired, then we must also remember that experience has shown that "our second nature, though eradicable, is no less powerful than our primary nature."²⁰ Lastly, a much greater harmony of motives is implied by reductionism than is actually the case. Most psychologists and educators agree with Dewey that "integration is an achievement" of character, "rather than a datum."²¹ If we are driven by only one principal motive to which all other motives are subservient, then personality conflict should be nonexistent. That this is hardly the case it is not necessary to argue.

It is because the concepts of fixity, complete universality, exhaustive classification, and reductionism of motives are inadequate hypotheses that the empirical "location" of motives becomes important. No one who behaviorally believes that motives, and therefore the direction of conduct, are given at birth would think it necessary to undertake the task of the empirical investigation of present values. The data would be superfluous because already known, or the findings would be of no practical use because conduct was predetermined. The same inadequacies are found in objective value-theories. If they hold that axiological error as well as axiological blindness is possible, then the search for what actually moves a person to action becomes separate from the determination of that which is of value. They can, of course, premise that most human beings are neither blind to, nor in error about, the majority of values. This would mean that once the objective values are determined, the majority of motives for the majority of men are known for all time. The inference of such a vast amount of agreement among men is ill supported by the violent

²⁰ George Boas, "Habit, Fact, and Value," *Journal of Philosophy*, 36:528, September 14, 1939.

²¹ John Dewey, *Human Nature and Conduct*, p. 38.

struggles and warfares that have raged and are raging between them.

*The Underlying Theory of Motivation—
Functional Autonomy*

More and more psychologists are coming to believe in the "functional autonomy" of drives and motives. This is a concept based on the theory that whatever native impulses there may be in the organism, they are inchoate until canalized in the social process of habit formation. Murphy, Murphy, and Newcomb claim that "even as late as the twelfth month of post-natal life, most human drives are not clearly directed upon specific objects."²² These writers use the term canalization for the "process by which a non-specific craving is given specific satisfaction," and state that whenever "the individual has experience in satisfying the drive in relation to one specific kind of stimulation, this stimulus becomes more and more an adequate initiator of the response."²³

Here we have the transference of drive from the inside of the organism to the outer objective world. Different objects become fixated differently by different individuals, by different groups, and by different cultures. These environmental and social objects gradually come to have a demand autonomy of their own, and we can just as accurately speak of a need for chocolate ice cream as of a need for food, of a need for listening to Beethoven's symphonies as of a need for pleasant sounds. Moreover, one object can become the center of many interests, so that reduction of the need of the object to any one primary need becomes impossible.

Many psychologists and writers on ethics have dealt with the problem of how the outer world becomes internalized, how the demands of the mores become personal demands. If we follow through the logic of the theory of canalization, we realize that it is as much the organic needs becoming externalized as it is the social needs becoming part of the self.

As previously stated, the idea of functional autonomy is now widespread. Woodworth had it when he wrote that an ongoing activity can become its own drive. In fact, he claimed that the great aim of his book *Dynamic Psychology* was "to attempt to show that any mechanism . . . once it is aroused, is capable of

²² Gardner Murphy, Lois Barclay Murphy, and Theodore M. Newcomb, *Experimental Social Psychology*, p. 190.

²³ *Ibid.*, p. 191.

furnishing its own drive and also of lending drive to other connected mechanisms."²⁴ He asserts, further, that:

the power of acquiring new mechanisms possessed by the human mind is at the same time a power of acquiring new drives; for every mechanism, when at that stage of its development when it has reached a degree of effectiveness without having yet become entirely automatic, is itself a drive and capable of motivating activities that lie beyond its immediate scope. The primal forces of hunger, fear, sex, and the rest, continue in force, but do not by any means, even with their combinations, account for the sum total of drives actuating the experienced individual.²⁵

Gestalt psychologists, particularly those working with Lewin, in testing a hypothesis similar to that of Woodworth, carried out a series of experiments which proved that an unfinished task has motive power—it “demands” to be finished.²⁶

Dewey²⁷ maintains that though the impulses of infants may be starting points, instincts should not be thought of as the fountainhead of all conduct; what is primary in time may not be primary in present conduct. Bouglé²⁸ devotes a whole book to the evolution of values which he also associates with motives. He speaks of the differentiation of values into new autonomies and integrations as corresponding to the progress of culture. When Sellars,²⁹ in his introduction to Bouglé's book, says that “the history of society is a history of the differentiation of values,” he is also describing the history of any individual.

Allport, who lists nine other advantages for the principle of functional autonomy, claims for it that “though in itself a general law, at the same time it helps to account, not for the abstract motivation of an impersonal and purely hypothetical mind-in-general as do other dynamic principles, but for the concrete, viable motives of any one mind-in-particular.”³⁰ He, too, admits that the origin of motives may be organic, but he regards adult motives “as infinitely varied, and as self-sustaining, *contemporary* systems, growing out of antecedent systems, but functionally independent of them. Just as a child gradually repudiates his dependence on his parents, develops a will of his own, becomes

²⁴ Robert Sessions Woodworth, *Dynamic Psychology*, p. 67.

²⁵ *Ibid.*, p. 104.

²⁶ For a report of these experiments, see Kurt Lewin, *A Dynamic Theory of Personality*, pp. 242-249.

²⁷ John Dewey, *Human Nature and Conduct*, pp. 93-94.

²⁸ C. Bouglé, *The Evolution of Values*, translated by Helen Stalker Sellars, p. 60.

²⁹ *Ibid.*, p. xxxvi, Introduction by Roy Wood Sellars.

³⁰ Gordon W. Allport, *Personality: A Psychological Interpretation*, p. 207.

self-active and self-determining, and outlives his parents, so it is with motives. Each motive has a definite point of origin which may lie in the hypothetical instincts, or, more likely, in the organic tensions and diffuse irritability. . . . Theoretically all adult purposes can be traced back to these seed-forms in infancy. But as the individual matures the bond is broken. The tie is historical, not functional."³¹

Raup, who embodies a theory of motivation within his theory of complacency, has virtually the same idea. Though he attempts to reduce all drive to the effort to gain complacency and locates value at the point of complacency, he almost inverts his theory by including within it the hypothesis that man comes to value "those things that disturb," not everything that disturbs, of course, but "man values positively (favors or chooses) that which arouses disturbances for which he has reduction patterns ready. He values negatively (holds in disfavor, rejects) that which arouses disturbances for which no reduction patterns are ready in him, or readily available."³² Activities, therefore, take on a demand character of their own, the feeling of value does not have to await a state of complacency, and behavior takes on the positive aspect of seeking activity as well as the negative of reducing disturbance.

Indeed, Tolman,³³ in the same volume in which he favors the assumption that all drives remain dependent upon the fundamental physiologic drives, shows that even with animals there is some evolution towards autonomy of mechanisms which were originally entirely dependent upon an organic drive. The means, so to speak, becomes an end in itself. From Tolman's study we can see the connection between the means-ends problem and that of functional autonomy. Of this, and the manner in which it is related to the measurement of values, more will be said later.

Two more indications of the principle of functional autonomy are Cohen's emphasis that "the universe of existence has the particular character which it has and not some other,"³⁴ and Mead's³⁵ insistence that an event should be treated upon the level on which it has emerged.

³¹ *Ibid.*, p. 194.

³² Robert Bruce Raup, *Complacency*, p. 154.

³³ Edward Chace Tolman, *Purposive Behavior in Animals and Men*.

³⁴ Morris Cohen, *Reason and Nature*, p. 152.

³⁵ George Herbert Mead, *Mind, Self, and Society*.

From a slightly different angle, Köhler³⁶ also points to the emergence of autonomic demands upon the individual. In his discussion of "the place of value in a world of fact," he brings together motive and value and the functional objectivity of value. Köhler does not speak of motives or drives. His terminology is that of vectors and demand characters. He insists that vectors issue not only from the self towards objects but also from objects towards the self so that the "self feels himself the target of many such demands."³⁷ To Köhler, the question of the origin of a demand character is not the question of its location.³⁸ What we really find, he says, is that the vector which occurred at first only in the self has now been transformed so that it resides in the object. "The vector is issuing *there* now phenomenally, it actually belongs to the object in question, just as before it putatively belonged to the self."³⁹

When reading Köhler, it must be remembered that he, as well as Koffka and the other gestaltists, distinguishes between the physical environment and the behavioral environment. There are things, real things, and these may act upon the individual whether he knows anything about them or not. Falling rain will wet a man. Fire will burn him when he comes in contact with it. A wooden chair will support his weight, a paper chair would not. But these things, as physical objects, do not move him to action. It is only his "percepts" of them that influence his behavior. When this basic conception is kept in mind, it is impossible to charge Köhler with having gone over to the idealistic-objective theory of value which some of his statements, taken out of context, may seem to imply.

In contrast to gestalt psychologists who prefer to describe motivation situations mainly in terms of vectors of the environment, Murray, while recognizing the process of canalization,⁴⁰ deems it "necessary to put the dynamic variable beneath the skin."⁴¹ "Motivation," he emphasizes, "always refers to something within the organism."⁴² His central concept for the "exploration of personality," is therefore *need* ("a force [the physico-chemical nature of which is unknown] in the brain

³⁶ Wolfgang Kohler, *The Place of Value in a World of Fact*.

³⁷ *Ibid.*, p. 91.

³⁸ *Ibid.*, p. 82.

³⁹ *Ibid.*, p. 93.

⁴⁰ Henry A. Murray, *Explorations in Personality*, p. 140.

⁴¹ *Ibid.*, p. 71.

⁴² *Ibid.*, p. 251.

region, a force which organizes perception, apperception, intellection, conation and action in such a way as to transform in a certain direction an existing, unsatisfying situation")⁴³ and not cathexis ("the cathexis of an object is what it can make the subject do").⁴⁴

It is important to inquire why a psychologist who recognizes cathexis as "the necessary complement of the need concept"⁴⁵ allows it to enter only the periphery of his analysis of personality. It is true that Murray takes time (and several pages out of 750) to admit that "a personality is largely revealed in the objects that it cathects (values or rejects),"⁴⁶ and that "it would be possible to collect facts in favor of the proposition that the kind of objects that an individual cathects is of more significance than the relative strength of his needs."⁴⁷ He further admits that "from one point of view, the important thing is not whether a subject has a need for Achievement or for Affiliation or for Rejection, but rather *what* it is he wishes to achieve, affiliate himself with, or reject."⁴⁸ To Murray, however, it is not from the point of view of the psychologist and the scientist that cathected objects take importance, it is from the point of view of the sociologist.⁴⁹

That one's purpose in setting forth a theory makes focal certain concepts has already been asserted in the present inquiry, and so there is only agreement with the implication that the sociologist and the psychologist may approach the data of motivation from different angles and may therefore view motivation differently. In so far as educators are sociologists having in common with this group a concern for social institutions, for certain features of the environment, and for the effect of these features upon people, in so far, I am sure, Murray would agree that educators must concern themselves with the "cathected objects of their students."⁵⁰

It is true that one of the main reasons why the educator should

⁴³ *Ibid.*, p. 124.

⁴⁴ *Ibid.*, p. 121.

⁴⁵ *Ibid.*, p. 717.

⁴⁶ *Ibid.*, p. 106.

⁴⁷ *Ibid.*, p. 106.

⁴⁸ *Ibid.*, p. 228.

⁴⁹ *Ibid.*, p. 720.

⁵⁰ Actually Murray mentions the educational implications of the Harvard Studies in Personality only once, and then only to note that the possible contribution of the studies to education was outside the range of that endeavor though the obvious connection was the effect one's needs had on the logical structure of one's thinking. (*Ibid.*, p. 740.)

embark upon the task of determining the *valued* (a psychological factor) is his concern with the *valuable* (a sociological factor). Our point of divergence from Murray is that we hold that values (cathected objects) are parts of the self, while he maintains that cathected objects are not significant variables of personality. It is our contention that educators, as *practising psychologists* interested in the personality adjustment of the individual, must be concerned with the student's value-objects since it is the presence or absence of our objects of value (positive and negative) that makes for adjustment and maladjustment. A study of personality in terms of a multiplicity of distinguishable variables which are not integrated with objective factors in such a way that they can be objectively handled leaves little scope for the educator. He who wishes to educate a person must do more than abstractly "understand" him. Murray bases his belief that a person is not adequately understood when described in terms of his values upon his assumption that the greater part of a person's life is private.⁵¹ It is difficult to see how one can separate the private from the public part of one's life in such fashion as to compare their extensiveness. The citing of a hermit as an illustration of a personality that is so withdrawn that it cannot be described in terms of cathected objects only serves to highlight the fact that in so far as a hermit is a genuine hermit his personality will become narrowed and stunted.

Another objection which keeps Murray from swinging over to a clear acceptance of the theory of functional autonomy is that some persons do not focalize their drives to any major extent and that changing circumstances will necessarily change the objects in which the drive becomes embodied. It is a fact that when Arctic explorers found themselves near the North Pole with no store of provisions, they satisfied their hunger drive by eating blubber just as the Eskimos did. Thus the hunger drive (inner motive) remained, but it extended towards a new environmental object. An analogy cannot always be validly drawn, however, between drives which must be satisfied if the person is to remain alive and other "inner needs" (e. g., Abasement, Dominance, Deference, Exhibition, Rejection, Order, etc., all taken from Murray's list). For any one person, these nonvital needs may be less enduring than the objects of his

⁵¹ *Ibid.*, p. 721.

environment, and certainly a radically different environment may eliminate certain previously enduring needs and create contrasting new ones, just as much as it may serve to center the old needs in new value-objects. Non-stability of the environment would mean non-stability of the personality no matter by what variables the personality was described. Nor should we forget the fact that a value-object develops a potential for satisfying other needs than those which it first embodied, while at the same time it may lose some of the earlier value embodiments. Thus a value-object may have a more stable and permanent connection with the person than do his "inner needs."

Murray's desire to be completely eclectic⁵² plus a confessed predisposition to psychoanalytic (especially Freudian) theory,⁵³ leads him every little while to go over to the camp of the functional autonomists. He thus constructs such a concept as "need integrate," a "relatively stable organization in the brain" consisting of "traces (images) of cathected objects in familiar settings . . . integrated in the mind with the needs and emotions which they customarily excite, as well as with images of preferred modes."⁵⁴ He even admits that "when a need is aroused it has a tendency to seek or to avoid, as the case may be, the external objects that resemble the images with which it is integrated."⁵⁵ However, he cannot bring himself to accept completely the conceptual nature of the hypothetical constructs which he creates and places within the brain. Thus, whenever he finds himself giving importance to the environment—the "out there" objects, characteristics, and events—he feels compelled to add some statement which will immediately discount this significance.⁵⁶ While it is quite true that naming a person's values only in terms of the environmental objects he traffics with (including the groups he affiliates with or rejects, the activities he engages in or refuses) is not sufficient for getting a full picture of his motives (in our terminology, his values), especially since the object of valuing is not always that which can be embodied in a thing or in an institution, naming without the objects is

⁵² *Ibid.*, p. 11.

⁵³ *Ibid.*, p. 33 and p. 722.

⁵⁴ *Ibid.*, p. 110.

⁵⁵ *Ibid.*, p. 110.

⁵⁶ Murray's readiness to accept theories which use "innate factors" as explanations of the fantasies, thoughts and behaviors of human beings is illustrated by his serious and favorable consideration of the "philo-genetic conception of the mind." (*Ibid.*, p. 285.)

even less adequate. A supplementary discussion of the naming of values has been deferred to Chapter XIV after the problem of quantification has been discussed so that difficulties of quantification could be integrated with the problem of naming.

In referring to the autonomy of the "demand" character of an object, we have in actuality touched upon a controversy which philosophers who tackle the metaphysics of value commonly enter. These philosophers who go in quest of the habitat of value seek to localize it in a segregated, separated, and cut-off place, but they differ with one another as to what this place is.

They argue as to whether the value is in the subject, in the object, or in the relation between subject and object. It was this that Clarke had in mind as well as her *fundamentum divisionis* of *psychologismus*, when she insisted upon a threefold, rather than a twofold classification of value-theories, to which reference was made earlier. But the problem of localization vanishes once a metaphysics of separate entities is discarded. When all things are seen to get their characteristics from the relationships into which they enter, as soon as the "field" point of view is adopted, which asserts that any object gets its characteristics from the field in which it exists, then the concepts of primary qualities, secondary qualities, and tertiary qualities dissolve and with them the problem as to which one of these qualities best describes value. If we examine our everyday language and its parts of speech, we see that they are related to each other as are the parts of a "field." It is not laziness that allows the same word (with or without suffixes or other small changes) to be used for several parts of speech.

If we take the value situation, we have represented the subject, verb, and object of a sentence. Except for rather poor style, there is nothing incorrect about the statement. The valuer values the value. Every part of the value situation can have the word value attributed to it. There is no particular point in arguing where we should localize it. But there is great point in remembering that before there can be any value at all there must be a field containing a subject, an object, and a relationship between the two expressed by the transitive verb *to value*.

In the title of this study, the preference of the writer was to use value as a noun which can take the plural number. This at once indicates that the verb can be directed towards a variety of objects. The discussion on functional autonomy also suggests that *once the value situation has developed* there may be a rela-

tion from the object to the subject as well as from the subject to the object—field relations are not necessarily unidirectional. The kinds of object this object of the verb can be—whether physical thing, abstraction, quality, feeling, etc.—will be discussed in the course of defining value. Before one gets to the meaning of a word, one must decide upon a valid method for arriving at that meaning. The problem of definition therefore is the next point to consider.

CHAPTER IV

THE PROBLEM OF DEFINITION

The Process of Definition

THERE IS a school of value-theory which believes that value is indefinable. Either you know what it is or you do not, and that is the end of the matter. This school holds that to define value is to distort its meaning or to give it an inadequate meaning. There is a sense, of course, in which in the last analysis all terms are indefinable. As has already been quoted, "A thing is what it is and not some other thing." In addition, we have the gestalt psychologists' insistence that the whole is different from the sum of its parts, so that no analysis of a thing can give its full meaning. Nevertheless, we can recognize all this and still hold that there is a very useful process called definition whereby a writer seeks to communicate to his readers the particular referent of the term he is employing. So long as an object or event can be referred to in words other than the terminology then being used for it, one cannot say the thing is indefinable. This circumlocution (which is definition) may be necessary in two types of circumstances.

First, there is the situation where the reader or listener has never experienced the event, and so when the term is offered to him he does not know its referent. It thus becomes necessary for the user of the term to examine the object or event in such a way that he can break it up and put it together again, so to speak, in terms which refer to events that have been experienced by his listener. This would be the case in explaining "swimming" to a native of a desert. He is familiar with water, with movement of the body, with lying down and kicking his legs, etc. An analytic explanation of this kind would be essential so that the inhabitant of the desert could create for himself a synthetic concept of swimming. He might do this so well that when for the first time he saw someone swimming he would recognize the activity as "swimming."

Second, there is the case in which the reader or listener has experienced the event, but where the writer is not sure that he and his reader use the same term to refer to this event, or where, if they do use the same term, the word has several referents and the writer must seek to have his reader confine the term to the referent of the writing. This kind of defining, which is the appropriate one in the present study, may be done in several ways.

If there is a word in another language known by both writer and reader, that can be employed. For example, if the writer knew that his audience was a Frenchman whose English was poor, he could say, to swim, *nager*, and no further explanation would be necessary if the Frenchman understood the term *nager*. Otherwise, the writer uses the nearest synonym, if there is one. But the synonym must in that case have the same referent for both writer and reader. Often a set of words is used for the one word. As in the previous cases, there is the same necessity of a common referent between writer and reader. Sometimes the writer proceeds with the analytic process described in the situation where the reader has not experienced the event. This time, however, the aim is not to get the reader to form a synthetic concept, but to lead him to pick out the same referent which the writer has in mind when he uses the term.

Operational Definitions

Many test constructors and measurers in the field of psychology have tried to save themselves the trouble of defining by naming their test, say *X*, and then remaining content with the assertion that *X* is whatever the test measures. The trouble with this kind of procedure is that the discussion must be confined to the behavior-involved-in-taking-the-test, since this is the last and only referent. It is impossible to bring in meanings from any other context, and few, if any, worth-while generalizations can be made. What usually happens in actual practice is that meanings from other contexts are "bootlegged" in, a fact which may cause havoc to the validity of the argument.

This misuse of operational definitions may be caused by the haphazard mixing of two levels of definition which ought to be either kept separate or placed in the sort of relationship with each other that would agree with the empirical correspondence of the levels. When Bridgman says, "To find the length of an

object, we have to perform certain physical operations. The concept of length is therefore fixed when the operations by which length is measured are fixed: that is, the concept of length involves as much as and nothing more than the set of operations by which length is determined,"¹ we must remember that he has prefaced his statement by saying that "for the physicist nothing more is required." More, however, may be required by the psychologist if he uses the same term on the level of psychology (human behavior).

When the physicist reduces sound to wave lengths or heat to energy, he begins by correlating with human senses which have given the words sound and heat their meaning, and ends by using his index as an event in itself not related to seeing color, or hearing sound, or feeling heat. This objective use of his construct is valuable whenever the event so constructed has certain effects on objects, which effects can be understood and controlled by means of the construct. But if the wanted effect is not one of event upon thing, but of event upon person, then the correlation of the objective construct and the concept formed through subjective experience must again occur. Thus we have engineers taking account of the fact that loudness of sound as a physical construct in terms of decibels does not correlate linearly, at all frequencies, with loudness of sound as heard, and that what correlation there is is different for different age levels. Therefore a standard or average "ear" has been constructed for use in radio broadcasting.

These peculiarities of hearing show that to say that loudness is what is measured by decibels will not help the conductor of the orchestra who wishes to produce his loud and soft effects in terms of auditory stimuli upon the audience. Similarly, to say that values are what the test measures would give no help as to what use to make of the data the test has gathered. Valid use for the test in such a case could be found only by further empirical investigation, and any outside-this-operation-context meaning of value could not be used.²

Physicists do not deduce uses for their operational constructs from the sensory terminology which may name these constructs. In fact, Bridgman³ would prefer that when different measuring

¹ Percy Williams Bridgman, *The Logic of Modern Physics*, p. 5.

² Cf. C. K. Ogden and I. A. Richards, *The Meaning of Meaning*.

³ Percy Williams Bridgman, *loc. cit.*

operations are used, different names be adopted. He would have a different name for length measured in terms of miles and length measured in terms of light years. Possibly the advantages obtained by specific terminology which would emphasize the differences would be offset, if not outweighed, by the disadvantages that might come from losing sight of the empirical interconnections which might exist. In any case, the important thing to remember is that what goes into the definition of the event being measured will determine the valid uses of the results of the measurement. In measurement, the purpose must affect the operational construct used. Other uses may later be found by empirical correlation. But what these, if any, might be would turn out to be sheer guesswork if there were no solid interconnective basis on which the construct was first built.

The Definition and the Purpose

Every definition depends upon the purpose for which it is being made, since any object or quality or event can be defined in many ways. Different definitions make central different aspects of the term; different appropriate consequences follow, and different purposes are served.

Red can be defined in any of the following ways: (1) By pointing it out—showing the event as sensed. (2) By telling what class it belongs to (color). (3) By describing how it will act when certain operations are performed: Red mixed with yellow turns orange; red mixed with blue turns purple. (4) By reducing it to the data of physics—this kind of wave of this particular frequency.

When a child is being taught the language, the first definition with the second added to it serves the purpose. When one is interested in painting, definition (3) is the most useful. When one wants to produce the color in motion pictures, the fourth definition is the one required.

The validity of a definition is in the end tested by the purpose for which it is being devised. It is for this reason that Dewey repeatedly emphasizes the fact that though valuing can mean both prizing and appraising, he wants the term reserved for the latter, since the former "fails to give direction to conduct,"⁴ while it is only by use of the latter definition that reflection is connected

⁴ John Dewey, *The Quest for Certainty*, p. 263.

with valuing and this connection must be made if there is to be progress in "the conscious art of re-making goods."⁵

Not all writers are as frank as Dewey in admitting why they choose to define value as they do. Nevertheless, their interests and purposes have a great deal of bearing upon the particular definition they argue is the "correct" definition of value. I have no doubt that the interest of Prall and Reid in aesthetics, Everett's interest in morals and ethics, Bouglé's in sociology, Urban's in metaphysics are as influential in these writers' discussions of value as is Dewey's interest in the rational and intelligent control of one's conduct.

In view of the fact that we are here seeking a methodology of measurement—location and quantification of values—the definition may be considered valid if, by its use, we know what to look for when we seek to observe what values people are functioning by. But the observation is also in terms of a purpose, the purpose for which the data obtained will be used. This will further modify our definition. In fact, this latter purpose will set the direction of the definition. In other words, a definition which is operational is not necessarily an adequate definition. All tests are operational definitions of something, but unless they are also indicative of a behavior in which we are directly interested, they serve no purpose. A fruitful way to proceed is to define the behavior we are interested in and then to find correlative behaviors in those cases where the latter are more easily observed and measured.

⁵ John Dewey, *Experience and Nature*, p. 430.

CHAPTER V

THE DEFINITION OF VALUE

Value as a Transitive Verb

AS WE BEGIN the definition of value, we note that the word is a transitive verb. How much meaning does value take on by being put in the category of transitive verbs rather than that of verbs in general? The primary addition is the requirement of an object. All transitive verbs are the expression of a relationship between subject and object. The discussion thus far has made it clear that the subject of this verb is to be a human being. Many philosophers also term certain relationships between things value-relationships.¹ But no one would speak of a thing valuing another thing. Even Laird,² who discusses at length a theory of value which would include the relationship of things to things in the fundamental concept of the value-relationship, does not speak of one thing valuing another. He calls the relationship "natural election." His concept of natural election is based on the fact that particular things have an affinity for particular other things, and that action, or reaction, on the part of physical objects is "selective" in character. This "principle of non-indifference in nature" is accepted by the present writer. Nevertheless, so as not to lose sight of the fact that "election" at the human level may be more than "natural election," the term value is in this study limited to a relationship between a human subject and an object. Only when the relationship between things is seen by a person who values the things because of the relationship in which they stand to each other, will the term value be used in connection with thing-relationships. The mere understanding of that relationship is not valuing as it is here being defined; such understanding is only a recognition of a means-ends relationship. Objects may, of course, and usually do, get their

¹ See Wolfgang Köhler, *The Place of Value in a World of Fact*, pp. 74-84.

² John Laird, *The Idea of Value*, Chap. III.

value from this means-ends relationship, but the matrix in which valuing arises should not be confused with valuing itself. A thing is not "definable by its previous history alone."

Not all transitive verbs express the same kind of relationship.

1. Some express a change which the subject produces upon the object: He eats the candy. She hems the dress. He rolls the ball.

2. Some express the fact that the subject creates the object: He said a word. He wrote the letter.

3. Some express a sensory or feeling relationship extending from the subject to the object but not directly affecting the object: He watches the clouds. He likes candy.

4. Closely related to this last class are some of the transitive passive verbs where the grammatical subject is still the person: He was moved by the speech. He was charmed by her manner.

5. The illustrations in group (4) can be grammatically inverted so that the thing is the subject and the person the object with the feeling-relationship still between: The speech moved him.

Here the speech is given functional autonomy; otherwise the situation is the same as in (4). There is a feeling on the part of the person toward the object.

6. The verb may have to have included along with it a predicate adjective which gives an ascriptive character to the object: He thought the soup good. I felt the wind cool. He rated the essay excellent.

Our problem is to decide into which one, or which combination, of the above categories of transitive verbs *to value* falls. I believe that popular usage is in favor of the third, fourth, and fifth categories. Valuing is most commonly equated with a feeling-state or an emotion. It is also described as an "attitude towards." Some define it as behavior of a more overt kind (categories 1 and 2 above), but the majority feel that though valuing may be, and frequently is, followed by behavior of a certain sort, this behavior itself is not the act of valuing.

The sixth, or ascriptive,³ category, which denotes an evaluative attitude, is the one with which all writers on ethics, and many on

³ Compare Perry's classification of interests into attributive existential and ideal (R. B. Perry, *General Theory of Value*, pp. 352-354.)

value-theory, are concerned. It is the one about which John Dewey says there can be discussion, whereas with regard to value defined in terms of attitude as shown or embodied by feeling or by conduct *non disputandum est*.⁴

Quoted definitions of the word *value* from philosophical and psychological writers will best illustrate these usages of the term. Such a list of definitions will also give nuances to the meanings which the mere descriptions of the categories could not convey.

Current Definitions of Value Quoted

In preparing to quote value-definitions, two criteria decided the choice of those to be included in the list. First, a number of the major writers in the field were to be represented, and second, various viewpoints were to be presented. The quotations that follow are grouped by viewpoint rather than by author. Readers acquainted with the philosophies of the men quoted will, no doubt, be dissatisfied with the category into which some of these quotations have been placed as being a non-adequate representation of the particular author's view. Some of this dissatisfaction will be valid. The inadequacy of the classification is due partly to the non-separability of "feeling," "set," and "action." However, such separation is justified at the present moment partly because it is a separation that is common to the thinking of many, and partly because starting with such separate categorizing may make clearer the actual interconnections of "feeling," "set," and "action" that will be discussed subsequent to the listing of the definitions.

I. Value as feeling

The term value "has two very different senses. In the former it is simply the affective or feeling aspect of experience. . . . I shall call this primary value."

Gardner Williams, *The Human Perspective, Being an Interest Theory of Value*, p. 5.

"The feelings in the soul or the feeling-attitudes emanating from it as a center are the prime factors in every value situation." . . . "Feeling-tone . . . can only exist in consciousness."

Gardner Williams, *The Human Perspective, Being an Interest Theory of Value*, pp. 4 and 7.

"Actual value is constituted by actual and experienced (erlebt) emotional

⁴ "If one likes a thing he likes it; that is a point about which there can be no dispute. . . ." (John Dewey, *The Quest for Certainty*, p. 262)

attitude towards an object. My friend has actual value for me when I am actually feeling affection for him."

H. Osborne, *Foundations of the Philosophy of Value*, p. 38.

" . . . value, being essentially a feeling directed on some object of sense or imagination." . . . "It is applicable to, and its meaning is exhausted in, all those relative, concrete, determinate situations in which a subject likes—that is, contemplates with pleasure or satisfaction—some object, this object always having a qualitative status, being the immediate content of the value-experience."

John R. Reid, "A Definition of Value," *Journal of Philosophy*, 28.686 and 673, December 3, 1931.

Value of an object is "that qualitatively acceptable or objectionable simplicity or complexity that is its felt nature, pleasant or unpleasant, satisfying merely in the contemplation or not satisfying, beautiful or ugly, good or bad."

David W. Prall, "Metaphysics and Value," *University of California Publications in Philosophy*, Vol. 5, p. 119, 1924.

"Value is precisely the term applied in common usage to objects which stand at the outer end of a relation called liking, the inner end of which is a human mind that likes. And liking is in its primary nature, as an existing response in an actual organism, a process of mind or an attitude of mind clearly distinguishable from that process or attitude called judging."

David W. Prall, "The Present Status of the Theory of Value," *University of California Publications in Philosophy*, Vol. 4, p. 84, 1923.

"Any actual experience of reflection upon conduct will show that every foreseen result at once stirs our present affections, our likes and dislikes, our desires and aversions. There is developed a running commentary which stamps objects at once as good or evil. It is this direct sense of value, not the consciousness of general rules or ultimate goals, which finally determines the worth of the act to the agent."

John Dewey and James H. Tufts, *Ethics* (Rev. Ed., c.1932), p. 303.

" . . . value is a determination or quality of an object which involves any sort of appreciation or interest. Such appreciation, however, involves feeling and ultimately desires or tendencies underlying the feeling. Therefore value is the feeling. Value and feeling of value are the same thing. This is the psychological notion of value and the theory of value developed on this basis is the psychological theory of value."

W M Urban, "The Nature of Value," in *Encyclopaedia Britannica*, 14th edition.*

II. Value as attitude or set towards

Although in some of the quotations given under category I the word attitude may have been used in combination with feeling, it did not stand for attitude as a definite set towards an object. When a relationship to an object was expressed, the consequence of this relationship or the end-state of it was a feeling-state within the organism (whether this state was thought of as physiological or not). In contrast, attitude, or set, in the present category means

* This is not Urban's own position.

the beginning of an active response to the object. The person is set—in readiness—to do something to the object. This set differs from the mere feeling-state in having its specific character in any particular valuing-situation partake of the kind of activity necessary for consummatory action upon the object or for instituting the object so that consummatory action can follow. Under this category, overt action itself does not take place.

"... a value is thus simply the maintenance of a set toward the attainment of a goal. . . .

"The question arises whether an object should be called a value when it is being approached or contemplated, or only when it is being appropriated by the organism so as to put an end to a craving. Usage is all in favor of applying the term to the former situation. . . . Value is a statement of preparation for a response, and frequently at the symbolic level an inner preparation which involves no direct approach toward the object."

Gardner Murphy, Lois Barclay Murphy, and Theodore M. Newcomb, *Experimental Social Psychology*, p. 199.

"Ordinarily *attitude* should be employed when the disposition is bound to an object or value, that is to say, when it is aroused by a well-defined class of stimuli, and when the individual feels towards these stimuli a definite attraction or repulsion."

Gordon W. Allport, *Personality, A Psychological Interpretation*, p. 294.

"The key to the position is to be found in the fact that worth experience is always an attitude." . . . "our definition of worth as 'affective-volitional meaning,' and for the view that the worth experience is a concrete feeling-attitude, in which conation is always present and conative dispositions always presupposed."

Wilbur Marshall Urban, *Valuation: Its Nature and Laws*, pp. 14, 93.

III. Value as feeling or as attitude

"We must, accordingly, interpret our definition of value as affective-volitional meaning in a broader way—so as to include modes of feeling or desire, as the case may be, which are merely appreciative of the object, which merely apprehend the object with its funded meaning. We cannot confine it to attitudes in which this meaning, abstracted from the object, becomes a motive in the subject's survey of the situation."

Wilbur Marshall Urban, *Valuation: Its Nature and Laws*, pp. 32-33.

IV. Value as feeling and attitude

"... any value is both a drive and the condition inherent in the drive which we call the value-feeling. There is in any case of positive valuing a drive and a feeling. They vary in intensity in relation to each other, but they are always integrally related and one does not appear without the other."

Robert Bruce Raup, *Complacency*, p. 179.

"The words 'like,' 'demand,' 'want,' 'admire,' 'approve,' 'wish,' etc., which describe the type of relation that exists between the individual and the objects

or acts which he immediately values, are all expressive of *feeling*. It is also noteworthy that, if the feeling is toward an object or act which the individual is not possessing or doing at the time, there is also frequently present an *impulse* to gain possession of the object or to do the act." ". . . will and feeling are peculiarly associated with immediate values."

Maurice Picard, *Values Immediate and Contributory and Their Interrelation*, pp. 10-11.

V. Value as action, activity, behavior

" . . . the study of value is furthered definitely when we can see it as habit and, as such, coming into existence and functioning to secure and maintain complacency."

Robert Bruce Raup, *Complacency*, p. 153.

"That which is an object of interest is *eo ipso* invested with value. Any object, whatever it be, acquires value whenever any interest, whatever it be, is taken in it . . ."

"The last three chapters have explicated and fortified our definition of interest in terms of the behaving organism. . . . It has become increasingly clear that feeling cannot be taken as the basic factor in theory of value."

"The inadequacy of feeling as the constitutive principle of value, appears, furthermore, in its failure to provide for those objects which derive value from being sought by effort and indirection. It is necessary to recognize the role of desire, and to construe desire in terms that do not admit of its being reduced to feeling. Desire is not a pleasure taken in the idea or judgment of an object, together with a displeasure felt in its absence. It is a tendency to realize the one, or to escape the other. It is commonly a performance . . ."

"In an analysis of interest we have thus been obliged constantly to introduce motor or dynamic terms."

Ralph Barton Perry, *General Theory of Value*, pp. 115-116, 304, and 305.

" . . . 'to value' means two radically different things: to prize and to appraise; to esteem and to estimate: to find good . . . and to judge it to be good. . . ."

"To *find* a thing good is, I repeat, to attribute or impute nothing to it. It is just to do something to it."

John Dewey, *Essays in Experimental Logic*, pp. 354 and 359.

"The test of the existence of a valuation and the nature of the latter is actual behavior as that is subject to observation."

John Dewey, *Theory of Valuation*, p. 54.

"However a man may impose upon himself or upon others, a man's real measure of value is exhibited in what he *does*, not in what he consciously thinks or says. For the doing is the *actual* choice. It is the completed reflection."

John Dewey, *Essays in Experimental Logic*, p. 380.

VI. Value as action to promote or maintain the existence of the object

"That in which interest is taken, and which acquires value thereby, is that the existence of which is promoted."

Ralph Barton Perry, "Value as Election and Satisfaction," *International Journal of Ethics*, 41:441, July, 1931.

After equating valuing with interest, the authors continue, "Interest is regard, concern, solicitude for an object; if it is not manifested in action it is unreal."

John Dewey and James H. Tufts, *Ethics*, p. 322.

"Liking and disliking in their connection with valuation are to be considered in terms of observable and identifiable modes of behavior . . . When, then, the word 'liking' is used as a name for a mode of behavior (not as a name for a private and inaccessible feeling), what sort of activities does it stand for? What is its designatum? This inquiry is forwarded by noting that the words 'caring' and 'caring for' are, as modes of behavior, closely connected with 'liking', and that other substantially equivalent words are 'looking out for or after,' 'cherishing,' 'being devoted to,' 'attending to,' in the sense of 'tending,' 'ministering to,' 'fostering'—words that all seem to be variants of what is referred to by 'prizing.'

John Dewey, *Theory of Valuation*, pp. 13-14.

VII. Value as consummatory activity

"Values are always experiences, activities" . . . "not the object, but activity upon the object is the objective, of which the corresponding exemplification is the value."

De Witt Parker, "Value as Any Object of Any Interest," *International Journal of Ethics*, 40; 466 and 468, July, 1930.

" . . . value does not pertain to the terminus of the experience, to consummation alone, but to the entire process of desire-seeking fulfillment. . . . Value is the complex experience of satisfying desire with all the complexity involved in that process; it includes pleasure but it cannot be identified with pleasure."

De Witt Parker, *Human Values*, pp. 25-26.

After reserving the term ethical value for "ends," Stuart makes the following statement: ". . . the end must be more or less clearly and consistently conceived throughout as an activity. . . ."

Henry Waldgrave Stuart, "Valuation as a Logical Process," in *Studies in Logical Theory*, p. 232. (John Dewey, Editor.)

"Common sense does not actually find the *locus* of value in the pleasurable state, but in the activity, the functioning, of which the pleasurable state is the accompaniment."

Wilbur Marshall Urban, *Fundamentals of Ethics*, p. 84.

VIII. Value as end of action

"People actually evaluate objects in terms of different properties and we can find no reasons for arguing that they are incorrect in doing so. We must construct a theory which includes them all and we believe that Value-relativity is that generic theory. We have, then, different 'ends of action'—different specific meanings of goodness; but we have but one Generic Goodness—the property of 'being an end of action.' In Value-relativity, 'being an end of action' is the meaning of Generic Goodness. . . ."

Barnett Savery, "The Relativity of Value," *Journal of Philosophy*, 34:92, February 18, 1937.

IX. *Value as feeling or action*

"... we value things in different ways according as we think, feel, or do them."

Maurice Picard, *Values Immediate and Contributory and Their Interrelation*, p. 12.

X. *Value as attitude-set or action*

"These acts I call 'interests,' positive and negative; and of their objects when so regarded I propose to say that they have 'value,' positive and negative. I attempt to set forth in some detail the nature of interest, and find that it is fundamentally *motor* or *conative*. It is action, or a disposition to act, *for* or *against* that which I call its object."

Ralph Barton Perry, "A Theory of Value Defended," *Journal of Philosophy*, 28:450, August 13, 1931.

XI. *Value as feeling plus action*

"... every value must be viewed not merely as an agreeable feeling in some consciousness, but also as an activity by and through which the feeling is constituted."

Walter Goodnow Everett, *Moral Values*, p. 143.

XII. *Value as feeling followed by appropriate action*

"An essential value-act is a response of 'liking' or 'disliking' which one not only does not question but does not even think to question. One person likes tomatoes with salt and another likes them with sugar. They have their salads made accordingly; that is, this basic liking determines in this respect the direction and character of their conduct. Neither thinks of asking why he 'likes' as he does. He just does and acts accordingly. So long as the individual thus 'likes' or 'dislikes' a thing and never even thinks to question why, his response or act is an essential value-act."

Robert Bruce Raup, *Compacency*, p. 153.

"Furthermore, we want if possible to discover what it is to *be* interested, not what it is merely to *feel* interested. What is implied in *being* favorably or unfavorably disposed to anything? It may be that it all comes to nothing more than a peculiar quality or arrangement among the data of introspection, but such a conclusion would be equivalent to an abandonment of the widespread notion that interest is a kind of determination of events. The really important claim made in behalf of interest is the claim that things happen *because* of interest."

Ralph Barton Perry, *General Theory of Value*, pp. 141-142.

XIII. *Miscellaneous combinations of feeling, attitude-set, and action*

"Valuation is, then, a psychological fact. Organisms desire objects, tend toward them, are filled with emotion at the sight of them, select them, give them value-meaning. Here we have a behavioristic fact displayed in attitude

and conduct, and a conscious experience with its multitude of variations and shadings."

Roy Wood Sellars, Introduction to C. Bouglé's *Evolution of Values*, p. xxi.

"In sum, fundamental values are relations, responses, attitudes, immediate, simple, subjectively obvious, and irrational. But everything else becomes valuable or rational only by reference to them.

"Study them or others empirically, and they appear as types of specific behavior, simple or complicated, consisting of a given motor 'set' of the organism, strong emotional tone, and aggregates of connected ideas, more or less systematized."

Horace M. Kallen, "Value and Existence in Philosophy, Art, and Religion," in John Dewey et al., *Creative Intelligence*, pp. 414-415.

XIV. *Value as preference*

Preference can be interpreted to be either a feeling, or an attitude, or an action.

"Things are valuable when they are valued; that is, when they are esteemed and chosen. . . . In other words, we value, or evaluate, objects only when in doubt and in the process of choosing. Value is a category of reflective comparison, or choice, not one of things in themselves."

John Dewey, "Value," in Paul Monroe's *A Cyclopaedia of Education*.

"It cannot be too strongly emphasized that the purpose of judgments of value is not to describe but to make a selection among possible courses of action."

Charner Perry, "The Arbitrary as Basis for Morality," *International Journal of Ethics*, 43:133, January, 1933.

"To assert then that any object or action is a value is to assert at least that such action or object makes a reasonable claim on choice."

Charner Perry, "Value as Any Object of Any Interest," *International Journal of Ethics*, 40:490-491, July, 1930.

Value is "the relative importance which an individual consumer attaches to a particular good, in comparison with other goods."

Allyn Young, "Value," in *Encyclopaedia Britannica* (14th edition).

XV. *Value as evaluation or ascription*

"This means that we assign to an object—whether ideal or material matters little for the moment—a worth independent of our momentary impressions, capable of opposing resistance to our impulse . . ."

C. Bouglé, *Evolution of Values* (translated by Helen S. Sellars), p. 18.

". . . worth or value is the funded meaning of the object for the subject in different attitudes, or as predetermined by different dispositions and interests."

Wilbur Marshall Urban, *Valuation: Its Nature and Laws*, p. 26.

"That which makes objects desired or desirable or to be sought after; worth. Though generally ascribed to the object, clearly the value depends rather on the relation between the valuer and the valued object."

Horace B. English, *A Student's Dictionary of Psychological Terms*.

XVI. *Definitions setting forth one of the essential qualities of value but not claiming that this is the whole of value*

"... happiness is one essential element of all values, but is never the whole of any single value."

"The view which we are developing finds in states of agreeable feeling an essential element of all positive values, and that morality forms no exception in this respect to other human values."

Walter Goodnow Everett, *Moral Values*, pp. 113 and 137.

"... the recognition of worth or value involves the presence of a fact of feeling to which no 'rational' necessity attaches. We cannot prove even to those who agree with us in feeling it that it *has* to be there, or that it *ought* to be there; it simply *is* there, and we must take it as we find it."

"... the mere *existence* of feeling is not by itself sufficient to explain the moral judgment."

A. K. Rogers, "Feeling and the Moral Judgment," *International Journal of Ethics*, 40: 18 and 17, October, 1929.

"There are, we have seen, three and only three ways of conceiving the relation of pleasure to value. They may be thought of as identical, as in hedonism. Or the pleasurable state may be thought of as a necessary part of value but not the whole of the value. Finally, it may be thought of as the accompaniment or sign of the realization of value."

"The enduring tendency of mankind to find the locus of value in feeling is justified in so far that feeling is an element in or aspect of every experience of value. But ... feeling without reference to that which produces the feeling cannot be equated with value."

Wilbur Marshall Urban, *Fundamentals of Ethics*, pp. 86-87 and 92.

Before the foregoing classification of definitions was set forth, the reader was warned that he might be dissatisfied with the category in which some particular writer was being placed. Now it is seen that some writers have their several definitions placed in more than one category. This is due partly, as was previously pointed out, to the fact that interconnections exist between feeling, set, and action and that it is impossible to disconnect them sharply without doing violence to the fact. It is due as well to the fact that a writer may actually be ambiguous or inconsistent or may change his views in his later writings. Since this is not a criticism of writers, nor an attempt to state the full (or last) position of any philosopher or psychologist, it has not been thought necessary to select the *one* definition that would best represent him. On the contrary, the aim has been to get varied definitions which, even if slightly misrepresentative because taken out of the full context of the discussion in which they were made, nevertheless do state a widely held position in which the quoted author has at some time, and to a great extent, concurred.

Moreover, the difficulty of classification is not lessened by the fact that the same words, when used by philosophers who have different metaphysical theories, have different meanings. Since for a pragmatist like Dewey the meaning of a word is always stated in behavioral terms, it is usually safe to assume that, when he makes use of them, such words as *prizing*, *liking*, *desiring*, *preferring*, stand for behaviors. Those philosophers who lean heavily towards a theory of mental states, would, on the other hand, use the same words to stand for some kind of inner feeling or state.

We have, besides, the problem arising from the fact that valuing is both "dispositional" and actual, and while actual valuing may be described in behavioral terms, dispositional value is more nearly synonymous with attitude-set. Since the fact of existential interconnections between feeling, set, action, and ascription, and the concept of value as a "disposition" of the person have a great deal of bearing on valid methods of location and quantification of values, we must turn our attention to these interconnections.

Possible Connections Between Value-Feeling, Value-Set, Value-Ascription, and Value-Behavior

When we use one word to stand for interconnections, it becomes a class name. Value may be considered such a class name, but the relationship of *feeling*, *set*, and *action* to the class name may be of several kinds.

1. Value might be the class name, and feeling, set, and action three particulars belonging to this class. If this were the case, value could be located either by feeling, or by set, or by action. Such a class name states no connection between the three particulars other than that they are subsumed under the one name, value. If there are squirrels in the forest, that is no sign that elephants also roam it even though both are classed as animals.

2. Value might be the class name with feeling, set, and action as the three characteristics that must occur together before the name value can be given. This does not say that *if* feeling, *then* set and action. It only states that *when* the three occur together, then value. Obviously, with such a concept of value, a person's feelings, his value-set and his value-actions would all have to be observed and when they related to the same object, the object could be said to be a value for him.

3. Value, possibly, might be a concept such as size, a word which is not a class name for particulars but for dimensions. Value could then be compared to such a term as mass with its dimensions of length, width, and height. The dimensions of value would be value-feeling, value-set, and value-action. The difference here from (2) above is that the dimensions not only occur together but the whole is the product of the quantity of the dimensions. This would be important for our problem of quantification. If the equation

$$\text{Value} = \text{Feeling} \times \text{Set} \times \text{Action}$$

were true, then a number of valid propositions would follow, because then: (a) The degree of one of the dimensions would not tell us about the degree of another, but an increase in any one of the dimensions, and they could increase (or decrease) separately, would increase the whole—value. (b) Each dimension would have to be measured separately to get the measurement of value. (c) The quantity of the value would be the same through many changes of quantity of the dimensions provided the product of the dimensions was always the same. It is hard to tell, in such a case, just what significance any particular quantity of value would have.

But even while setting forth these possibilities we must keep in mind the enjoinder of the modern logician that every class name should be a functional concept. That which is included in the class should be included because it is of value to make such a classification. Traits should be conjoined into a class name for purposes of inference.⁵

When, for the purpose of this study, value was tied to motivation—what moves to action—the focal point of the possible interconnections of the elements which may make up value was already chosen. It may be better, therefore, for value not to be considered as a kind of class name for feeling, set, and action, but to restrict the definition of value to behavioral terms and to regard feeling and set as possible indications or indices of value. Whether feeling and set would be good indications of value would depend upon the actual connections between feeling, set, and action. There are a number of possible relationships between them.

1. There may be no interconnections. If we are interested in behavior, activity, then we must arbitrarily define value as action, and take no account of other definitions.

2. Feeling may always accompany (or precede, or follow) valu-

⁵ John Dewey, *Logic, The Theory of Inquiry*, pp. 268 ff.

ing as a behavior, but valuing as a behavior may not always accompany value-feeling. This would make value-behavior a sufficient indication of value and feeling an insufficient indication.

3. Value-attitude or set may have the same connection with action as feeling has in (2) above.⁶

4. The order of events may be: value-feeling is always followed by value-attitude which is always followed by value-action. In this case either value-feeling or value-attitude would be a sufficient indication of value-action.

5. Value-action may occur without value-feeling but if there is also value-feeling present—before or during value-action—then there is greater value.

6. Ascription of value to an object may always (or only sometimes) be followed by value-action.

7. Ascription of value to an object may always follow value-action. This would make it a sufficient index of *past* action providing the positive or negative value ascribed would be similar to the positive or negative quality of the value-action.⁷

How can we determine which of the possible connections are valid? Quoting authorities such as Irons, who says that emotional attitudes are usually but not always followed by action,⁸ or Dewey, who maintains at one time that action and sentiment are not inherently unified and that there is division of attitudes and responses,⁹ and claims at another time that "in judging, in commending and condemning, we are judging ourselves, revealing our own tastes and desires,"¹⁰ or Raup in his previously quoted statement, which takes it for granted that action follows liking, may start us thinking about the problem but it in no way settles it. Only empirical investigation can give us the answer.

⁶ This is the view that Irons has of attitudes of emotion: "That the latter (emotion) is really the condition and not the mere concomitant of the activities usually associated with it, is evident from the fact that the emotion may remain even when these activities are inhibited by counteracting forces." (David Irons, *A Study in the Psychology of Ethics*, p. 47.)

⁷ It will be noticed that preference is not included in the above. This is because preference is either a feeling, set, or action and so comes under the other possibilities. Preference is always an indication of value, but it is more than that. It is also an indication of one value being higher than the other or others. Desire, the connection of which with value is the subject of discussion in almost every book on ethics and value-theory, is another term that may stand for either feeling, or set, or action, and is therefore also omitted from the above possibilities.

⁸ See Irons, *op cit.*, p. 82. ⁹ John Dewey, *The Quest for Certainty*, p. 281.

¹⁰ John Dewey and James H. Tufts, *Ethics*, p. 280.

The Three Areas of Empirical Observation

How can such empirical investigation be undertaken? All empirical investigation depends upon observation. Now observation of human beings can be carried on in three areas: the physiological area, the verbal area, the area of overt behavior.

If we do not equate feelings with behavior, we shall have to look for them either in the physiological or in the verbal area. There are no other fields in which to look.

Whatever our theory of the connection between the physiological organism, or definite parts of it, and such psychological terms as feeling, we run into the fact that we cannot define any such thing as a particular feeling, or desire, in physiological terms until we have first defined it in verbal or behavioral terms and then found a physiological correlate. There have been a number of investigations of such correlations, but none has achieved more than weak positive results. It has been found that physiological signs cannot even indicate whether positive or negative valuing is occurring, much less can they tell what the particular object of value is. The physiological area is therefore not a very fruitful area for the observation of values; and Murray's¹¹ hope that some day it may be possible to measure need-tension directly in the brain does not hold much promise for the measurement of values.

Whatever feeling may mean when it is not defined in overt behavioral terms, we realize that there are quite specific verbal expressions which are intended to refer to this state of feeling, emotion, and mental set. No matter how difficult it may seem to be to get at the connection existing between feeling defined as a physiological, or psychobiological, or psychological state of the organism, and the overt behavior of the same organism, we are on much more solid ground when we change the problem to an attempt to get at the connection between verbal statements of feelings and overt activity. The difficulty is now the same as determining the relationship between what a person says he will do and what he actually does do.

We are left, then, with two areas of observation, the verbal area and the area of overt activity with regard to the object. In other

¹¹ Henry A. Murray, *Explorations in Personality*, p. 62

words, we can deal with overt value-activities and with verbal value-statements.¹²

Verbal value-statements can be of four kinds:

1. They can state past, present, or future value-feeling towards the object.
2. They can state value-feeling towards action upon the object.
3. They can state a past action that actually took place, or an intended future action.
4. They can ascribe a quality to the object—these are usually called value-judgments.

Thus we now have two verbal problems on hand—the one, to state what value-behavior is, and the other, to set forth the various verbal statements which will fall under the four categories listed above. In the statement of what value-behavior is, we may select words carefully to convey a concise meaning; in setting forth verbal value-statement we must collect whatever words and phrases are in actual usage in this connection.

Value-Behavior Defined—Positive and Negative

When we try to begin by distinguishing value-behavior from non-value-behavior we run into the difficulty that it may be that all behavior is value-behavior. If we agree to this possibility then of what use is all this effort to define value as an activity? The answer is that even if we include all behavior under value-activity, the fact of so looking at behavior gives it a characteristic which is unique and which may be distinguished from characteristics that behavior takes on when viewed from other perspectives.

Behavior, for instance, is commonly regarded as the effort of the organism to reduce disturbance and maintain a state of equilibrium. This is the aspect of behavior that Raup discusses so well in *Complacency*. When behavior is looked at as value-behavior, it takes on a rather different aspect from this of the reduction of disturbance. The theory of behavior as the effort to reduce tension has a good deal of similarity to the old Greek theory of the cessation

¹² Some value-behavior is enacted through words. The vote that counts must not be confused with a vote that is a mere expression of opinion. Thus the choices made on the pencil-and-paper "sociometric test" devised by Moreno (*J. L. Moreno, Who Shall Survive?*) are put into effect. The one taking the test knows that he is committing himself. This is therefore a value-activity, not just a value-statement.

of desire as the end of all action. Indeed, most writers who develop this theory add modifications which almost overthrow it, just as Raup did when he added the hypothesis, already quoted, that not only are activities which reduce disturbances sought, but disturbances for which reduction patterns are known are also sought.¹³

Instead of pointing to the aspect of tension reduction, value-behavior concentrates upon the aspect of consummation. This emphasizes the positive, active, seeking qualities of human behavior, rather than the negative, passive, responding aspects which such a term as complacency connotes. If the theory of equilibration is to be affirmed, then equilibration must not be a concept of "no movement." For things to be in equilibrium, there may be constant movement within the organization, or field, which is considered to be in equilibrium.

When equilibration is thought of in terms of high gradients and low gradients and movement from high to low,¹⁴ the illustration which immediately springs to mind is that water seeks its own level and that "even the weariest river winds somewhere safe to sea." But this is a very partial description of the event, for the "weary" waterdrops are not very long in the ocean before the process of evaporation begins or before they merge into some current of warm or cold water or before they dash as waves upon the shore or are thrown high up into the air. In other words, equilibrium on the physical level is not a static concept nor is it a "need" or "law" which physical bodies obey. Rather it is a term given to the direction of movement in a specific situation cut off temporarily and spatially from other situations.

Consummatory activity—and note that this is activity, not cessation of activity—is the equilibrative phase of value-behavior. Since human beings are such that they engage in no consummatory activities which last eternally, since rather all consummatory activities are of varied but definite and rather short temporal duration, man finds himself in frequent states of disequilibrium when he is *seeking* rather than *enjoying* consummation. Moreover, life

¹³ Professor Raup would be nearer the point of view accepted in the present study if he had said that the organism also seeks those disturbances for which it hopes it can acquire mechanisms for reduction. This would include taking up skiing, for example, before one can ski. Dr. Raup's statement leaves out the seeking of an activity before the response has been learned. It would follow logically, if Professor Raup's theory were rigorously construed, that learning takes place only when the organism passively finds itself in a disturbed state.

¹⁴ In connection with psychology these concepts have been developed at great length by Wheeler and Perkins in *Principles of Mental Development*.

is of such a complex plural nature that it is entirely false to think of it as a single line of consummation, cessation of consummation with disequilibration, seeking after new consummation, consummation again, cessation again, and so on. At any one time we may be in a consummatory or equilibrative relation with more than one thing, and in a state of disequilibrium in other respects. Disequilibrium comes not only because the consummatory activity has run its course, but also because the objects towards which the particular consummatory relationship is wanted change so that consummation cannot take place. The organism is thus active on two fronts. It engages in consummatory activities, and it engages in activities which will produce and maintain conditions such that it can engage in consummatory activities. Both these types of activity must be included in value-behavior. Therefore value-behavior can now be defined as *consummatory activity of any kind or as activity which is expected to bring about conditions favorable for consummatory activity*.

This is the generic definition. The specific value-behavior can be described only in terms of relationship with the specific value-object. Thus the consummatory activity with regard to steak is eating it, with regard to sunset is watching it, with regard to tennis is playing the game. Value-behavior, besides the consummatory behavior in each of the above instances, will also be respectively: buying and broiling the steak or else ordering it in a restaurant and paying for it; going out where you can watch the sunset; learning how to play tennis, buying a racket, going to the tennis court and seeking out a partner.

However, between the very broad generic definition and the specific definition of the value-behavior when the value-object is stated, there are several general ways of stating what value-behavior may be in more concrete terms than those used in the generic definition.

The following are value-behaviors:

1. Spending time in attaining an object.
2. Spending money in attaining an object.
3. Spending energy in attaining an object.
4. Spending time, money, or energy, or all three, in attaining the skill needed for the consummatory activity.
5. Engaging in "positive commerce" with the object.

Thus far we have spoken only of *positive* value which lies in

consummatory activity with the object. But there is also negative valuing. When we value a thing negatively, we do *not* want consummation with it. Negative valuing can thus be stated in the following terms:

1. Spending time to get rid of, destroy, or keep away from the object.
2. Spending money to get rid of, destroy, or keep away from the object.
3. Spending energy to get rid of, destroy, or keep away from the object.
4. Spending time, money, energy to acquire a skill which will help to get rid of, to destroy, or to keep away from the object.
5. Refraining from engaging in commerce with the object.

Koffka has stated the positive and negative value-aspects as follows:

Now for an object to be attractive means that there are forces within the field starting from the object which tend to shorten the distance between it and myself; the opposite is true of repulsive objects, whereas the indifferent objects exert no pressure upon me.¹⁵

Perry, too, emphasizes the fact that the difference between positive and negative value-behavior (or interest, as he terms it) does not lie in any character possessed by the response itself when viewed merely as movements of the organism.

The general form of interested action is the same, whether positive or negative; the difference lies in the positive or negative sign of the governing expectation. In both cases one is trying to do something; but that which one is trying to do is describable in the one case in positive and in the other case in negative terms. Unless negative interest is to mean non-interest, a negative interest in *a* must be the same thing as a positive interest in *not-a*; negative interest in the sense of the polar opposite of positive interest, being defined by transposing the negation from the act to the object of interest.¹⁶

Verbal Value-Statements—Positive and Negative

With value-behavior, positive and negative, defined, we come to the verbal statements which may be indicative of value-feeling or of value-behavior. The ones indicative of value-behavior offer no particular difficulty. They say, "I have done this" or "I would do that" in about the same terms as used above for value-behavior

¹⁵ Kurt Koffka, *Principles of Gestalt Psychology*, p. 353.

¹⁶ Ralph Barton Perry, *General Theory of Value*, pp. 239-240.

—"I would spend my money for," "I would read this book," "I would work to get—," etc.

Words expressing feeling-attitude towards an object form a long list. Irons has carefully distinguished and defined the various emotions (his term for feeling-attitudes).¹⁷ Emotions as Irons looks upon them are always towards an object (the same characteristic we have been emphasizing with regard to the verb value). It is therefore well to add a preposition after the word we use for the emotion, except in those cases where the word is clearly a transitive verb. The following list of words and phrases, possibly indicative of value, begins with Irons' list of attitudes of emotion and continues with other types of value-words.

VALUE-WORDS

<i>Positive</i>	<i>Negative¹⁸</i>
<i>Words Expressing Value-Attitudes</i>	
am satisfied with	am dissatisfied with
	am angry at
	feel rage towards
	am irritated with
	am indignant at
	fear
	am afraid of
	dread
have fellow feeling towards	have ill-feeling towards
have kindly feeling towards	
like	dislike
love	hate
admire	scorn
find worthy	find unworthy
respect	have contempt for
	am disgusted with
	feel aversion towards
	find abhorrent
	find repulsive
	am horrified by

¹⁷ "... emotion is the subjective response which appears when we react in view of a situation instead of being merely affected by it. This response, we must repeat, is not pure impulse or tendency to act. It is a mood or state of feeling in regard to the object, on account of which special modes of conduct appeal to us with a force they do not possess on other occasions." (David Irons, *A Study in the Psychology of Ethics*, p. 7.)

¹⁸ An *indifferent* column is not set up because words expressing indifference are more or less the same for all the emotions unless the indifferent attitude is described as being neither the positive nor the negative emotion. Some persons claim that there is no indifference point except a theoretical one, and that one feels either positive or negative value towards every object. Some discussion of this viewpoint will be found on page 77.

Words Expressing Feeling of Obligation

Many philosophers center their whole concept of value round this "imperative" attitude.

ought to

must

have to ¹⁹

it is my duty to

ought not to

must not

Words Expressing Desire

These relate to that part of the definition of value-behavior which states that a thing is being valued when an attempt is made to bring it into such relation with the person as to make consummation possible (or impossible).

desire

want

need

long for

aspire to

wish

Words Expressing Consummatory Feeling-Attitudes

These may be called "aesthetic" attitudes. There is a marked relationship to the emotional attitudes listed at the beginning.

like

enjoy

find pleasant

am delighted with

am pleased with

find interesting

dislike

find unpleasant

am disappointed with

am displeased with

find dull

find boring

Words Expressing Universalized, Ascriptive Value-Judgments

The adjective is applied to the object without reference to the self.

it is good

it is valuable

it is right

it is beautiful

it is charming

it is worthy

it is proper

it ought to be

it is bad

it is of disvalue

it is wrong

it is evil

it is harmful

it is ugly

it is unworthy

it is improper

it ought not to be

Value and Existence

From the foregoing it is plain that value-attitudes and value-

¹⁹ The negative value-expression may, in this and also in other cases, be the same as the positive one, but the action which follows as the object of the attitude is a negative one—one that looks towards riddance, destruction, or escape from. This is true of all words expressing desire and therefore no negative value-phrases are given in these cases.

behaviors differ according to the existence or nonexistence of the object. That is, valuing is reaction towards *what is*, and bringing about *what ought to be*. Whether the object is in existence, and where it is located in relation to the person, will determine what the specific value-behavior is.²⁰

<i>Existence of the Object</i>	<i>Corresponding Value-Behavior</i>
1. Object is present and in such a state that consummatory interaction is possible	1. Consummatory activity
2. Object exists but is not present	2. Bringing the object into the necessary spatial relationship
3. Object exists but not in the form desired for consummation	3. Reconstructing the object
4. Object does not exist	4. Creating the object

Since valuing is always related to reality, to what is and what is not, we can also differentiate the kinds of "isness" or existences that one can value.

1. Something that you possess.
2. A condition that exists in connection with yourself—a skill, a trait, such as good looks or being approved by people, or a characteristic way of acting, such as honestly, kindly, intelligently.
3. Something which exists in the world but which you yourself do not possess.
4. A condition which exists in the world for some others but which does not exist for you.
5. An ability which will never exist for you because of your physical deficiency (for example, seeing color if you are color-blind) but which can exist intellectually in your imagination from your having heard others tell about it, and towards which there is the value-feeling of something that you would like to possess although there seems no possibility of ever possessing it. If a possibility ever does present itself, action may be undertaken to correct the deficiency.
6. A thing (or condition) which you believe is possible but which at present does not exist in the world so far as you know.
7. A thing (or condition) which you believe will never exist in its perfect state or in its entirety, but which can be extended to a fuller form more nearly like the ideal that you imagine.
8. Any of the above for others, not just for, or even rather than for, yourself.
9. The nonexistence of any of the types listed above.

A list of this kind must be kept in mind when value-behavior is observed, particularly in the verbal area, otherwise observation may cover too limited a portion of human activity. The value-tests

²⁰ See previous discussion as to the effect on the object which a transitive verb may express, pp. 39-40.

which ask, Which do you like? or Which do you dislike? limit themselves to attitudes with respect to things already in the presence of the subject. When they say, Name your greatest wishes, they limit themselves to the nonexistent or nonpossessed so far as the subject is concerned. When they demand, Which would you do if you could? they pretend that a skill is existing which may not be and which the subject may never make an effort to acquire. Actually, he might never do that which on the test he says he would do, even though he is telling the truth, predicting correctly about himself, when he says that *if* he could do such and such, he would. Furthermore, whenever choices are *presented* to a person, the objects start off in a different kind of existential relationship with the person than if he had to create the possible line of choice as well as make the choice.²¹ We have no surety that when a person values a thing which has one kind of existence he will also value it when its existence in relation to himself is of another kind and when he therefore must put forth a different kind of value-behavior.

²¹ See later discussion on the choice situation, Chap. XI.

CHAPTER VI

THE LOCATION OF VALUES

Dispositional Aspect of Values

ARISING FROM THE FACT that things can be in mind before they are in existence, and a value-attitude can be taken long before there is value-action and often long before there is any possibility of value-action, there comes the question as to whether value-behavior is the best index of value even when value is defined strictly in behavioral terms. If there is sufficient observation of ongoing behavior, will it be possible to make an accurate characterization of the person's values? The answer cannot be a simple affirmative. It is true that observation of the behavior gives data about present valuing. But when we say that *A* values *X*, we do not mean that he is doing so at the moment. We mean that this is characteristic of him; it is his disposition to do so; it is one of his personality traits; when conditions arise that make such behavior appropriate he will act accordingly.

We are back again at the problem which the opening pages of this volume emphasized that we could not get rid of. To say *A* values *X* is to make a prediction, not a statement about *A*'s present behavior. We cannot take for granted that a statement about *A*'s present behavior is an accurate prediction of his future behavior. It may or may not be the best prediction that we can make.

It is owing to this dispositional aspect of valuing that value has been so often defined as an attitude, or set, or readiness. Attitude used synonymously with disposition is a different concept from, and should not be confused with, the concept of an attitude as the "feeling towards" which precedes but does not include overt activity. This latter meaning is well defined by Mead as follows: ". . . by 'attitude' I refer to the adjustment of the organism involved in an impulse ready for expression."¹

Dewey has expressed the former meaning thus:

¹ George Herbert Mead, *Mind, Self and Society*, p. 362.

"Attitude and, as ordinarily used, disposition suggest something latent, potential, something which requires a positive stimulus outside themselves to become active. . . . we may employ them instead of the word habit to denote subdued, non-patent forms of the latter. . . . attitude means some special case of a pre-disposition, the disposition waiting as it were to spring through an opened door."²

The potential, latent quality to which Dewey refers is characteristic not only of human traits but also of physical nature. A highly inflammable liquid does not show its inflammability by continuous burning. Its inflammability may remain potential but unexpressed, even suppressed, so to speak, when we bottle it up and store it in the cellar. Though in the cellar situation it will not burn, we still say the liquid is inflammable because this characteristic will show itself as soon as the liquid is kept in a higher temperature and left open to the air. However, the liquid *can* be made noninflammable by combining it with another chemical. In this state, its inflammability is not suppressed; it is done away with. The added chemical may have changed the original liquid very slightly except for this one characteristic, or it may have changed the liquid a good deal. It will depend on the amount of change that has taken place as to whether we continue to call the transformed liquid by the same name as the original.

Impulses, traits, motives, characteristics of human nature are potential, suppressed, or removed in the same way as in the above illustration of the liquid. But the person himself takes part in making the changes. He is active in making changes in himself and does not depend entirely on an outside agency. When the change is not in the form of suppression—where the impulse waits the proper occasion to show itself—but in the form of actual change of impulse, we adequately describe the change in the same terms as the change in the liquid: "There has been a change in him—such a change, I wouldn't recognize him for the same person."

With regard to the location of values, it makes all the difference in the world as to whether the value is suppressed and potential,

² John Dewey, *Human Nature and Conduct*, p. 41.

Compare the following from Alfred Stern in his discussion of Vierkandt: "La source de toute valeur—ce sont les sentiments. Mais ceux-ci n'ont pas seulement le caractère actuel—comme on le prétend d'habitude. Les sentiments peuvent prendre aussi une forme virtuelle qui se change en actualité, quand il s'agit d'un intérêt pratique. . . . Ils représentent des accumulations, qui ne se transforment en activité qu'en certains cas. Les valeurs comprennent des convictions latentes." (Alfred Stern, *La Philosophie des Valeurs, Deuxième Partie*, pp. 17–18.)

or whether it is nonexistent in that it never did exist or has dropped out as a trait of the personality.³ Our discussion has thus led us to classify values according to the three types which Osborne distinguishes as follows:

1. actual—"constituted by actual and experienced emotional attitude towards an object."
2. dispositional—"the object of a relatively constant emotional and conative disposition."
3. potential—something "judged to be likely to acquire actual or dispositional value."⁴

We are therefore faced with the problem of having to measure dispositional and potential values as well as present values. Is actual present and past valuing—defined in behavioral terms—the best indication (index) of dispositional and potential value? What other indices may there be?

The term dispositional implies repetition of the same thing. If we never repeated what we did, then there could be no prediction of what we might do even under known circumstances. But if that were the case, we should have no personality or individuality. To be a person may not mean to have as stable characteristics as iron, for example, has, but it does mean a certain amount of stability and similarity running through one's actions. The degree of stability varies with different persons. We speak of some as being very changeable and of others as being "set in their ways." There is also a positive, though not high, correlation between age and consistency of character.

Because personality is not inborn, it does not mean that it is not structured. As personality grows it also becomes more stably structured. A self evolves. That is what was meant in the first chapter when values were defined as part of the self. Through all its changes, this self retains sufficient similarity to be recognizable. The way in which this self or personality gets built so that it is recognizable by its behaviors is stated differently by different writers, but they all have a common underlying conception that

³ This study began by saying that our values are our motives; now it asserts that our values are traits of our personality. Then it must be that motives are also traits. Compare Allport: "Interests, ambitions, compulsions, phobias, general attitudes, inclinations, hobbies, values, tastes, predilections, and the like, are all traits and are at the same time motives." (Gordon W. Allport, *Personality: A Psychological Interpretation*, p. 322.)

⁴ H. Osborne, *Foundations of the Philosophy of Value*, p. 38.

many of the experiences one undergoes find their way into the personality as tendencies to repeat them.⁵

Thinking of them in this way as personality structure, tendency, disposition, psychologists have built hypothetical constructs such

⁵ Note the following ways of conceiving the building of personality

"Possessions, friends, one's own children, other children, cultural interests, abstract ideas, politics, hobbies, recreation, and most conspicuously of all, one's work, all lead to the incorporation of interests once remote from the self into selfhood proper. What one loves becomes a part of him. And anything one can admire, feel sympathy for, appreciate, revere, deliberately imitate, or become unconsciously identified with, may become *introcepted* into the personality, and remain ever after a vital part of it." (Gordon W. Allport, *Personality: A Psychological Interpretation*, p. 217)

"Repetitions and consistencies are due in part to the fact that impressions of situations leave enduring 'traces' (a concept for an hypothetical process) in the organism, which may be reactivated by the appearance of situations that resemble them; and because of the connections of these evoked traces with particular reaction systems, the organism is apt to respond to new situations as it did to former ones (redintegration). Some of the past is always alive in the present." (Henry A. Murray, *Explorations in Personality*, p. 44.)

Murphy conceives personality to be built through canalization of response. This concept of his has already been discussed on page 25. Canalization builds a self since "life processes are usually irreversible; and this is a fact of social psychology as much as it is a fact of biochemistry. Patterns of conditioning and reconditioning do not follow in endless labile succession. Values once formed are not dislodged except by more potent values, and they become involved with new values at each point in the growth process. Increasing specificity of response and increasing complexity of values produce, in time, reasonably dependable structures and reasonably definite patterns of personality." (Gardner Murphy, Lois Barclay Murphy, and Theodore M. Newcomb, *Experimental Social Psychology*, p. 203.)

Lewin speaks of the "fixation of impulses or needs" as a fundamental process. As personality grows or becomes "more structured," the "individual psychical experiences, the actions and emotions, purposes, wishes and hopes, are rather *imbedded in quite definite psychical structures, spheres of the personality, and whole processes.*" (Kurt Lewin, *Dynamic Theory of Personality*, pp 46 and 54.)

Dewey recognizes habit as the mechanism of stabilizing personality. "The essence of habit is an acquired predisposition of *ways* or modes of response. . . . Habit means special sensitiveness or accessibility to certain classes of stimuli, standing predilections and aversions. . . . It means will." (John Dewey, *Human Nature and Conduct*, p. 42.)

After various response patterns are contrived and tried out, "finally one pattern may be accepted as meeting satisfactorily the needs of the situation. This fact of acceptance now does an extraordinary thing—a miracle we should call it, were it not so familiar. The pattern so accepted to act on henceforth becomes *by and through the fact of acceptance* incorporated into the person's very organism along with and among all the rest that makes up his character. Henceforth this new is part and parcel of him, of his very self." (William H. Kilpatrick, *Remaking the Curriculum*, p. 27.)

"The individual self is literally built out of the interactions of the human organism with its natural-social environment. The self is not some psychic core to which experiences are merely added; it is itself a unique pattern of behavior and mind woven out of the raw material of its own transactions with its social environment." (John L. Childs, *Education and the Philosophy of Experimentalism*, p. 242.)

as needs and traits. Murray defends the hypothetical construct of need at some length. Although he terms such constructs "convenient fictions"⁶ which it is "scientifically permissible" to use because of their great "resolving power," nevertheless he sometimes forgets the "imaginal" existence of "needs." He puts the question, "What process or force within the organism brings about the observed effects?"⁷ and adds that "the notion of force as a propelling activity . . . will be indispensable (i.e. a convenient fiction) to the psychologist for a long time to come. If the psychologist could deal directly with the brain and measure a drive process . . . then perhaps its force might be defined in terms of pointer readings."⁸ But as we cannot make such pointer readings, we cannot construct a dynamical theory unless we conceptualize organic drives "behind appearances." Murray therefore defines need as "the force within the organism which determines a certain trend or major effect."⁹

Allport¹⁰ commends Murray for this doctrine of "needs." Lewin tries to impress upon his reader that "instead of attempting to follow the mystical ideal of a 'purely empirical' science of 'facts' without theories or concepts, one may as well face openly and without disturbance the 'fact' that dynamic constructs have been unavoidable in any worth-while psychology."¹¹ Need is one of these dynamic constructs which Lewin defines.

I have no objection to classing the dispositional values of a person together with these other constructs so long as it is understood that such a construct is not meant to refer to any special essence or any specific purely organic structure. Value used in this way refers to no more and no less of a *thing* than does *speed* in the phrase, This plane has a speed of 300 miles.¹²

⁶ Henry W. Murray, *Explorations in Personality*, p. 53.

⁷ *Ibid.*, p. 59.

⁸ *Ibid.*, p. 59.

⁹ *Ibid.*, p. 61.

¹⁰ Gordon W. Allport, *Personality: A Psychological Interpretation*, p. 239.

¹¹ Kurt Lewin, *The Conceptual Representation and the Measurement of Psychological Forces*, p. 12.

¹² There is, however, a major difficulty in describing the nature of a person in terms of needs. This is due to the fact that need at the human level may be simultaneously both for X and for the direct opposite of X. Such pull in opposite directions may be *dispositional* as well as momentary. In other words, the person is not merely a collection of needs which seek realization, but rather a field of forces which act in relationship to each other as well as to the outside environment. (See Kurt Lewin, *Principles of Topological Psychology*, and *The Conceptual Representation and the Measurement of Psychological Forces*) This is a point to be remembered when values are measured. It may be a characteristic of the person rather than a defect of the test when a subject comes out with both a positive and a negative score for the same value.

Adequacy of Past Behavior as Index for Locating Values

If it is what we do that is built into the self and forms needs, it would seem, then, that dispositional value could be measured by the frequency of previous actual valuing (still retaining the behavioral definition for actual valuing). Such measurement, used alone, could be inadequate on two accounts. First, it would not allow for change of attitude, for alteration and discarding of values, changes which are always possible and can come suddenly and at a definite point, rather than through a gradually decreasing frequency of the value-behavior. Further, the mere frequency of past valuing would give insufficient indication of the potential values—the ones just about to become part of the self, the new values which even an old man may acquire.

We have been emphasizing the stability of character which allows measurement. But we must not forget the dynamic quality of traits which is as much a characteristic of personality as is their stability. Values may change. The fallibility of our value-judgments is one of the causes of change in our values. Dewey and Perry have both recognized and given attention to the fact that we may “err” in our valuing—that is, we may engage in value-activity even to the point of consummation and then find we have made a mistake; if we had known what the consummation would be like and the consequences following it, we should not have engaged in the value-activity. With this in mind, Dewey reserves the word value for those objects which reflection has shown us will incur less error in our valuing. In other words, Dewey’s values are, by definition, “normed.” They are of a certain degree of excellence. Perry’s definition, on the other hand, includes the fact of the fallibility of value:

All intelligence, even in the elementary forms already considered, is fallible. It is of the essential nature of an expectation that it may be disappointed. In defining interested response as conditioned by expectation we have therefore provided for its fallibility.¹³

Had we agreed to Dewey’s definition, we should be measuring less changeable values and therefore we should expect our predictions to be better. But how could we measure them? Certainly behavior would not be a sufficient index, since we should not know whether the valued object had “passed” the test of reflection. Moreover, we should fail to take account of the multiplicity of cases where value-

¹³ Ralph Barton Perry, *General Theory of Value*, p. 194.

behavior is directed towards an object which reflection has found to be *unworthy*.¹⁴

In the opening pages of this volume, values were compared to beliefs. This brings our definition in line with Perry's at this point, and leaves us with the difficulty which he poses that "the key to a man's bias is not to be found in the results of his action, but in what he expects of it."¹⁵

Observable behavior and the resulting overt consequences thus do not seem to be an infallible index of future value-behavior.¹⁶ Though behavior may still turn out to be the best index we have, we are forced to inquire into other indices to see how they compare with observable activity as signs of value. Earlier in these pages it was declared that there are three areas of observation—the physiological, the verbal, and the overt-behavioral—and that we could avail ourselves of only the last two for the location of values. What may be the inadequacy of one of these two areas may be a strong point of the other. It will be helpful, therefore, to list the inadequacies of each.

Overt behavior as an index of value is inadequate in these ways:

1. It may show only what the person did, rather than what he tried to do, whereas his future acts would be more in line with what he tried to do, what he expected to get.

2. It does not tell us what the person would do under changed conditions.

3. It gives us little hint as to whether the person would discard values he had worked for in the past.

4. It usually fails to locate values the necessity for whose recurrence is infrequent.

5. It makes no use of the inner attitude towards a thing, which, because of subsequent reflection, no longer corresponds to the attitude evidenced in previous value-behavior.

6. It may not always be clear whether the activity engaged in was the consummatory activity or a means to bring about another activity which would be the consummatory one.

¹⁴ If this type of behavior were not frequent, Dewey would not be continually preaching that we *ought* to act upon that which reflection discloses.

¹⁵ Ralph Barton Perry, *General Theory of Value*, p. 212.

¹⁶ The opposing view, stemming from a different psychology of motivation, has been unambiguously stated by Troland. He deplores the emphasis upon "anticipated happiness" as motivational and subscribes instead to a "hedonism of the past" which "puts the whole burden of determination upon *past* affection." (L. T. Troland, "Motivational Psychology," in C. Murchison's *Psychologies of 1930*, p. 473.)

7. It does not allow for change of beliefs which could in turn change value-activities since the two are interactive. Our values are related to what we expect to come to pass. Value-behavior aids in bringing about certain conditions that we want and in seeing that certain conditions that we do not want are not realized. Change in belief as to what is or is not about to happen will therefore change value-behavior.¹⁷

Adequacy of Verbal Statements as Index for Locating Values

It is evident from the foregoing list of inadequacies with regard to the use of overt behavior as the sole index of value that it might be wise to try to make use of man's capacity of consciousness and communication to aid in the location of his values. This does not change the definition of value into non-behavioral terms. The behavioral definition remains but something other than value-activity may be a better indication (index) of values, or may possibly be combined with observed value-activity to make a more reliable index. Scrutinizing the possibility of using verbal statements as value-indices, we come upon the following difficulties:

1. Recognizing that language is communication and, as such, has a purpose which may not be merely to state a fact, psychologists warn us, and rightly so, that the intention of verbal expression may be to make the hearer believe certain things whether they are true or not, or to make the hearer act in a certain way.

2. Of statements describing "feelings" and "attitudes" there is the added criticism that the speaker may himself not know what his feelings are. Here we get into the difficult problem of the conscious and the unconscious. Murray, for instance, speaks of processes that "pass in and out of consciousness," habits that have become so mechanized that they rarely enter consciousness, once verbalized tendencies that are now inhibited—"debarred from consciousness," and potential tendencies "which seldom, or never, find their way into consciousness because they lack the requisite verbal symbols."¹⁸

3. Of statements forecasting what the speaker will or would do, there is the further criticism that these are predictions, and that all predictions have an error probability; the fact that we have

¹⁷ See Ralph Barton Perry, *General Theory of Value*, Chaps. XI and XII.

¹⁸ Henry A. Murray, *Explorations in Personality*, p. 52.

a prediction made by the speaker about himself does not lessen the probability of error. It may increase it.

4. There is also the possibility that verbal expression may be ambiguous and misunderstood—it may convey meanings which the speaker did not intend.

5. Even if most of the above were not true, and sometimes they are not, there still looms before us the fact that action and sentiment, as Dewey puts it, are not “inherently unified in the constitution of human nature.”¹⁹

This frequent nonintegration of judgment, sentiment, and action has been recognized by others besides Dewey. Murphy believes it possible for one to have “learned at the visceral level what he has not learned at the verbal level.”²⁰ Piaget distinguishes between “effective moral thought, ‘moral experience’ which is built up gradually in action as the subject comes in contact with reality,” and “theoretical or verbal moral thought.”²¹ Piaget’s experiments with children have led him to believe that “verbal judgment lags behind effective judgment.”²² With regard to certain specific items related to morality, he sets the time lag at about one year.

I agree with Piaget that such time lags do exist but I believe we need to add the vice versa time lag as well. That is, judgment on the verbal plane (or valuing on the verbal plane) may precede similar judgment (or valuing) on the action plane. Though there are probably great individual differences in the extent and usual direction of these time lags, it is possible that with children the time lag is more often in the direction stated by Piaget, while with adults action more often lags behind the verbal statement. Faris²³ is strongly of the belief that the residue of past experience may show up in verbal attitudes long before it shows up in overt conduct.

We must keep in mind the possibility that the nonintegration of the verbal statement with action may not be merely a case of time lag. There may be no connection between the two. In other words, verbal value-statements may be mere verbalisms. Piaget warns that “words end by acquiring a substance of their own independently of reality.”²⁴ However, it does not follow that the

¹⁹ John Dewey, *The Quest for Certainty*, p. 281.

²⁰ Gardner Murphy, Lois Barclay Murphy, and Theodore M. Newcomb, *Experimental Social Psychology*, p. 163.

²¹ Jean Piaget, *The Moral Judgment of the Child*, p. 171. ²² *Ibid.*, p. 114.

²³ Ellsworth Faris, “Attitudes and Behavior,” *American Journal of Sociology*, 34:271–281, September, 1928.

²⁴ Jean Piaget, *The Moral Judgment of the Child*, p. 192.

holding of such "verbal substances" does not have any actual effects. What effects it may have is a question to be examined.

6. Lastly, we cannot end this list of difficulties which makes us wary of using language as a value-index without pointing out that many of the above inadequacies are doubly multiplied when verbal questions or directions are used to bring out these verbal value-statements, which is the case in the vast majority of instances.

Is the possibility of locating values, then, hopeless? We have examined the three possible areas of observation and have found the physiological of so little use that we set it aside, and the area of overt behavior and the verbal area both inadequate at many points. But this inquiry, it must be remembered, did not begin with any assumption that values could always be accurately located, let alone accurately quantified. Instead, it set as its goal the improvement of the location and quantification of values, which it recognized was an activity that was being pursued almost wholly without concern for methods which would bring increasingly better results.

The discussion thus far has brought us to several possible ways of proceeding. We could use observable behavior as an index, guarding against as many inadequacies as possible, and, when using the obtained data, trying to allow for such contingencies as we know may obtain when behavior is used as an index. We could with similar precaution use the subject's verbal statements as an index of value. We could use a combination of overt behavior and verbal statements. Any one of these three methods could be used but it would be well to determine which is the best in the particular situation.

Interconnection Between the Verbal and the Behavioral

It was emphasized previously that the existential connections between verbal statements and behavior must be determined by empirical investigation. This does not mean, however, that we have to wait for statistical data before we can assume any validity for the hypotheses we draw about the relationships that exist or about the disconnections that often loom the more prominent. Empirical observation has been going on for years, and the findings, though nonstatistical, are nevertheless findings of considerable worth. Furthermore, they create the starting point, the taking-off place for controlled investigation and statistical experiment. As a matter of fact, because each person is unique, group statistics

do not give much help in understanding the individual case. If for a moment we compare people to metals, and therefore an individual person, who has a name, to a single metal, which also has a name, we see by analogy that since few laws are stated by physicists about metals in general, and a great many more, and more precise, laws about each specific metal, so there may be few and only very general laws holding good for "people," but many more, and quite specific laws which could be stated validly of "individuals." Just as physicists must determine the weight of each of the metals by actually weighing them severally and separately, not by inference from any group of statistics about the weight of many metals, so each person has to be regarded as a separate case for most measurements.

Both Allport²⁵ and Lewin²⁶ stress the treatment of persons as individual cases. Lewin even goes so far as to believe that each individual is governed by laws as fixed as those of any metal, and that if we could only determine all the conditions of any human event we could state the law of its happening just as the physicist does when he says that pure iron weighed at such and such an altitude in a medium of air weighs just so much per cubic foot.

Because of the individual character of persons, all observations of connections, variations, and distinctions are useful since they are sure to be true of someone. Now each person, considered as a "whole," as a "person," is unique, but each of his characteristics is not unique. Not only have certain behaviors from person to person sufficient general similarity to be called by one name, but the differentiation of any such named behavior into variously qualified terms does not need to go on until there are as many subtypes as there are persons. Many persons will show almost exact similarity in a very specific behavior.

The error of type theories of personality is that they type the whole person. Certainly people can be divided into types in small areas of the personality, particularly when the one setting up the categories is willing to make more than the popular dual classifica-

²⁵ "One may say (with penetrating accuracy) that each personality is a law unto itself, meaning that each single life, if fully understood, would reveal its own orderly and necessary process of growth. The course of each life is a lawful event, even though it is unlike others of its class." (Gordon W. Allport, *Personality: A Psychological Interpretation*, p. 558.)

²⁶ "It is coming to be realized that every psychological law must hold without exception." There is a new focus point for investigation. "Instead of a reference to the abstract average of as many historically given cases as possible, there is a reference to the full concreteness of the particular situations." (Kurt Lewin, *A Dynamic Theory of Personality*, pp. 23 and 31.)

tions. Nonstatistical observation can determine what these categories are, though it cannot determine how much of the population will fall into any one category.

It may be said that such beginning categories can be logically determined. For instance, as between verbal statements and value-behavior there are a certain number of possible interconnections which can be deduced without reference to any empirical situation. Two faults, however, will be found in such a list. First, a number of categories may be deduced which are *possible* but into which no living persons will be found to fit. It would not only be a waste of time to carry along such superfluous categories but there would also be the danger that, once the category was set up, its hypothetical nature would be forgotten and the belief would grow that there *were* persons of that type. Second, logical deduction (even if this is due only to the fallibility of the logician) sometimes omits categories which do actually exist. Careful observation of each individual of even a small group will usually show varieties which have not been hypothesized by sheer deduction.

In spite of the objections to such a logically deduced list of possible differences in the connections to be found between verbal value-statements and value-behavior, I am venturing to offer one here. Into its makeup, however, enter also the results of a good deal of observation in the areas of value-behavior and value-speech.

1. All verbal expressions, whether of feeling, judgment, obligatoriness, etc., have some positive correlation with value-behavior.

2. Verbal statements may be consistent with each other, but the same person's value-behaviors may be inconsistent with each other and therefore only partially consistent with the verbal (or vice versa).

3. The correlation between general verbal attitudes and value-behavior may be low; the correlation between specific statements and specific value-behaviors may be high (or vice versa).

4. For nearly everyone, the statement of liking means a possibility of value-behavior; however, the encountering of barriers may inhibit the behavior.

5. Liking will always bring conflict when one liked object interferes with the attainment or enjoyment of another liked object. In such cases there will be hesitation, more or less overt, before value-action is embarked upon.

6. The verbal statements may be signs of values much stronger

or much weaker than they imply, but they never correlate negatively with the corresponding value-behaviors.

7. The correlation between the degree of value expressed in verbal statements and in behavior differs for different people, but for any individual the stronger the value-statement the more probable the correlation with behavior.

8. There may be no verbal counterpart except for introspectionists or when the value is brought to the person's attention.

9. The verbalism does not agree with the logically correlated behavior, but does agree with the behavior subsumed by the subject under this particular stereotype. That is: there is a correlation between the verbal and the behavioral, but the subject has different referents for his words than has the observer.

10. The person acts according to the manner which he says he values; for example, honestly. But he may not see, even when the observer does, that honesty is involved in the situation or else he may choose as the honest path the one the observer classifies as dishonest.

11. The relation for any one person between his verbal statements and his value-behavior is different in the case of different values.

12. Verbal value-statements maintained against the mores of the community are probably very highly predictive of the behavior of most people who make them. When the inhibitions of the social code are not effective at the verbal level, it is less likely that they will be so at the behavioral level. Situations where there is a temporary outburst of anger (so common with young children) against a thwarting force which cannot be removed may display verbal aggression of an exaggerated degree against objects (ideas, people) which are rarely attacked behaviorally. But such an outburst only proves the hypothesis that when an unpopular verbal position is steadily maintained, it will show itself in behavior as soon as there is some chance for overt activity to gain its ends. The verbal aggression of the angry outburst is speedily withdrawn with an apologetic, "I didn't really mean it." When it is so withdrawn, it is not always easy to tell whether favorable conditions will or will not bring about the behavior pledged in words by the speaker. When, however, the unpopular verbal position is steadfastly maintained as an ideal in the presence of a group who consider it the very negation of their own ideals, there seems no reason to doubt

that the speaker means it, means it in behavior, that is. In our own time, Hitler is the best example of a man about whose verbal value-statements, anathema as they were to much of the world, there was much mistaken doubt that they were clear forerunners of conduct every whit as outrageous as his words.

From all that has been written thus far, the reader can see that the *location* of values is not an easy task, even though the difficulty has historically been laid to *quantification*. There are many more problems to be discussed than those already mentioned. However, they must wait for a later chapter, after some consideration of quantification has taken place. This order of discussion is advisable so that the later discussions will integrate implications for location and quantification rather than keep the two inquiries separate.

CHAPTER VII

THE QUANTIFICATION OF VALUES

The Possibility of Value-Quantification

MANY ADJECTIVES, from presumptuous to foolhardy, have been leveled at those who attempt to deal with the quantification of value. I would agree to the presumptuous characterization were I attempting to set up a mathematics by which people *ought* to be governed. But since my attempt is not to create a moral arithmetic, but rather to measure force or motive power, only the epithet foolhardy can be applied to the undertaking, and even this, it seems to me, is no longer legitimate. The possibility of being able to measure values roughly is now definite, and the possibility of finer discrimination is increasing. So also is the probability of accuracy. The fact that the nature of the subject matter, as well as our ignorance, makes complete accuracy unattainable need not deter the worker in this field. Nagel criticizes rationalism for having made complete certitude the condition for science since such a criterion neglects "the approximate and contingent character of statements dealing with matters of fact."¹ He is ready to have science go ahead on "evidence which is not conclusive, but which nevertheless carries some weight."²

Though complete accuracy can never be obtained, greater accuracy is always the aim of science. It is in order that some progress along the scale of accuracy in predicting values can be made that this volume raises so many questions. The solutions of problems of science, like any others, follow the gestalt law of moving from the vague and dimly perceived to an ever clearer and more distinguishable pattern. Cohen maintains that science no more begins with precise measurement than it does with clear and exact ideas:³ "It begins rather with hazy ideas of inexact measurements,

¹ Ernest Nagel, *Principles of the Theory of Probability*, p. 3.

² *Ibid.*, p. 6.

³ Morris Cohen, *Reason and Nature*, p. 95.

but greater accuracy is introduced and indeed made possible by the ideal of scientific system."

The literature on the commensurability of values can be divided into two sets of discussions. There are, first, those discussions which seek to compare values by some criterion which is applied from the "observer's viewpoint,"⁴ even when it is the person concerned with the value who is himself making the comparison. The value-objects are compared in terms of a standard which they are to satisfy. The standard sought for is one on the basis of which choice between values *should* rest. This is what the hedonists and the utilitarians were concerned with when they sought to make pleasure the principle of choice. This is the type of criterion looked for when ethical questions are posed such as: "How much of his opportunity for education and self-development as a great artist should a dutiful son give up in order to help his parents in their economic struggle?"⁵ These discussions deal with the degree of *valuableness* of the object. The other set of discussions deals not merely with the amount of value, but with the amount of value for some specific person—the degree to which the object *is valued* by him. The first class of criteria relates to the quantification of a noun, the second to that of a verb. In both categories of discussion there are those who say commensurability is possible and those who say it is not. Though the definition of value adopted for the present inquiry draws its meaning from the verb, it will be useful later to examine some of the observer's criteria, because many of them also function as standards by which the subject compares the values he acts upon.

Comparison is the essence of measurement and those who hold to the complete incommensurability of values must explain how it is that every phrase derived from the word value has a comparative degree. To have more value, to be more valuable, to be more valued, to value more highly—all these terms are current in the English language, and to no layman do they seem meaningless. In fact, there has been some contention among philosophers that the awareness of difference in rank of values is primary, and that *better* is the "fundamental value universal."⁶ Reid has taken

⁴ For the distinction between the standpoints of the observer and of the organism which values, see Maurice Picard, *Values Immediate and Contributory and Their Interrelation*.

⁵ Illustration taken from Morris Cohen, *Reason and Nature*, p. 443.

⁶ Albert P. Brogan, "The Fundamental Value Universal," *Journal of Philosophy*, 16:95 ff., February 13, 1919.

Dewey to task for saying that "immediately nothing is better or worse than anything else."⁷ Reid⁸ believes that things are always compared in their immediacy, either in their present immediacy, or in the immediacy of their consequences. Once a quality (of a noun, or of a verb) has been isolated which has a meaningful comparative form, the question, Can you measure it? is, strictly speaking, a meaningless one, for the quality has already been measured. The question ought rather to be stated in the form, What does more, in terms of this particular quality, mean? In values, as in all other measurement, quantification must be coordinated to "the different real processes"⁹ with which it has to deal.

Reference Points and Units for the Value-Scale

When value is considered as a magnitude, every evidence of value is some degree or quantity of that magnitude. By our definition, whenever we locate a value we simultaneously assign it to the plus or minus side of the point of indifference (zero) on the scale of values. Because of the polarity of value, units of value (of being valued, that is), must number off on either side of the zero point of indifference.¹⁰ We have thus met the first requirement of all measurement as stipulated by McCall, namely a reference point or starting point.¹¹ . . .

The second requirement, a unit of measurement, is not so obviously in view. To bring value units into being, we must ask ourselves:

⁷ John Dewey, *Experience and Nature*, p. 430.

⁸ John R. Reid, "The Apotheosis of Intelligence," *Journal of Philosophy*, 32:175-185, July 4, 1935.

⁹ Kurt Lewin, *Principles of Topological Psychology*, p. 65.

¹⁰ Indifference has been mentioned, but not discussed, previously. Some hold that there is no indifference point of valuing when the object is known, is in consciousness, or has once been in consciousness. I do not agree with this viewpoint. When I move to my window to open or shut it, I see a garden chair on the roof opposite. I do nothing about that chair, either for or against it, but as it is in my direct line of vision when I am at the window, and my moving the window up or down does not require the concentration of my eyes, I always see the chair. However, I am indifferent to it. I react to it neither positively nor negatively. Possibly, if it gets old enough and broken down enough it may not suit my aesthetic sense, and I may pull down the shade whenever I sit facing the window, or turn my back to the window to shut out the view, or even move to another apartment if the chair has so much negative value that I do not even want to see it during the brief time that I am opening or closing my window.

¹¹ William A. McCall, *Measurement*, Chap. XXXII.

1. What is meant by greater or lesser distance on either side of the zero point of indifference?
2. Can these distances be marked off into units?
3. If so, into what kind of units?
4. What numerical values can be assigned to such units?
5. How are these numerical values related to one another?
6. What arithmetic and algebraic operations can be performed with these units?
7. Has the value-scale any other critical points besides the indifference or zero point?¹²

To get answers to these questions we must keep in mind that valuing is the "real process" with which we are dealing, and we have defined it as a behavior process. To proceed we must, therefore, find what is the difference in behavior when we value something more and when we value it less. It is probably a unanimous opinion that what is chosen is valued more than what is rejected. The "choice" situation defines the conditions of the occurrence of things being valued more and less. But what does "choosing" mean? Does it not mean:

To engage in this activity rather than in that?

To spend time to engage in this rather than the other?

To spend money to engage in this rather than the other?

To spend energy to engage in this rather than the other?

These meanings can be listed to agree exactly with the definitions of value formulated previously. The actual choice thus gives us a picture of one thing being more highly valued than another or than several others. It tells us nothing about the size of the difference nor does it say anything about dispositional value. Nevertheless, we saw earlier that dispositional value is a function of repetition. Repetition of choice in situations where the same values are involved therefore becomes an indication of dispositional value, value that has become a part of the self. Repetition also means that there are countable units, and, as Nagel has pointed out, it is the "repeatable process capable of producing the markings on the instrument" which "has an overwhelming importance

¹² The temperature scale, for example, has critical points which denote freezing and boiling of water.

in science.”¹³ Our first scale of value-measurement can thus be stated in terms of an arithmetic ratio—the number of times X is chosen to the number of times Y is chosen.

The Logic of Measurement and the Nature of Value

I feel certain that at this point some who are interested in the logic of measurement are going to raise the objection that units have been added which are nonadditive in nature. Let us examine the rules of addition as well as the axioms of measurement.

Qualities to be measured are usually divided into intensive and extensive magnitudes. The latter can be ordered and added, the former only ordered. Intensive magnitudes are scaled along a continuum any point of which includes all that precedes. Temperature is such a magnitude. So are brightness of color and loudness of sound.

Extensive magnitudes can be divided into equal units which can be placed side by side (so to speak) if they are not already arranged in that order. The units follow the arithmetic rules of addition and subtraction—4 units plus 2 units make 6 units, which is twice 3 units. Intensive magnitudes exist as such and such a size measured along the continuum. You cannot put two such magnitudes together to make a longer piece on the scale. Extensive magnitudes can be so put together. Extensive magnitudes can also be split up into parts the size of which is determinable. This cannot be done to intensive magnitudes, but conditions can be changed so that the intensive magnitude shrinks or grows greater.

Nagel enumerates the following set of twelve axioms of quantity, all twelve of which are true of extensive magnitudes but only the first six of which are true of intensive magnitudes:

- “(1) Either $a > b$, or $a < b$, or $a = b$.
- (2) If $a > b$, and $b > c$, then $a > c$.
- (3) For every a there is an a' , such that $a = a'$.
- (4) If $a > b$, and $b = b'$, then $a > b'$.
- (5) If $a = b$, then $b = a$.
- (6) For every a there is a b such that $a > b$ (within limits).
- (7) For every a and b there is a c such that $c = a + b$.
- (8) $a + b > a'$.
- (9) $a + b = a' + b'$.
- (10) $a + b = b + a$.
- (11) $(a + b) + c = a + (b + c)$.
- (12) If $a < b$, there is a number n such that $na > b$ (also within limits).”¹⁴

¹³ Ernest Nagel, *On The Logic of Measurement*, p. 19.

¹⁴ *Ibid.*, pp. 18–19.

There are many who wish to reserve the term measurement for magnitudes which verify the whole set of twelve axioms. Nagel refers to such magnitudes as magnitudes "in the most complete sense,"¹⁵ and Smith¹⁶ in describing the logical conditions of educational measurement lays down the same axioms of order, equality, and addition. In the title of the present inquiry, measurement was used broadly enough to include both location and quantification of values, since valid quantification depends upon proper location. The term quantification itself is also much broader than measurement in the restricted sense. As used here, it includes all numerical assignments that have a meaning of more or less than some other numerical assignment.

It might seem from the above discussion of intensive and extensive qualities that the first thing the would-be measurer had to do was to determine whether value was an intensive or an extensive magnitude. This, however, is a task only for those who define value as a special kind of essence with a special kind of structure. One can agree that "if mathematics is to be used successfully in the treatment of qualities dealt with in educational measurement . . . the axiomatic conditions of the mathematical operations must be expressive of those properties,"¹⁷ without agreeing that "measurement is a search for a special kind of structure."¹⁸ For the structure of the property being measured is also a function of the purpose for which the measurement is being made, and it may be that different purposes will produce different structures in relation to measurement. Thus value may be both an intensive and an extensive magnitude.

As an illustration of this conception let us discuss the measurement of a rug. At first thought we might be inclined to say, here is an extensive magnitude measured in units of square feet. But suppose we want to measure the rug because the edges are frayed and it needs to be bound. In this case, though we still measure the rug, we measure in units of length, and they form an extensive magnitude around the circumference of the rug, all the four sides being added together. Suppose, on the other hand, that we are trying to buy a rug to fit the living room which is 20' by 18'. Do we now look for the number of square feet in the rug or for the cir-

¹⁵ *Ibid.*, p. 19.

¹⁶ B. Othanel Smith, *Logical Aspects of Educational Measurement*.

¹⁷ *Ibid.*, p. 59.

¹⁸ *Ibid.*, p. 57.

cumference, or must we find still another structure? In this situation, to compare the size of rugs from which we are selecting with one another and with the floor, we do not divide the rugs into units and compare the number of units, for then a 10' by 12' rug would equal a 20' by 6', and this is certainly not the case for the purpose of covering the living room floor. But these two rugs would be of equal magnitude if they were being measured for the purpose of being cleaned at so much per square foot, and if we wished to have both cleaned we could add their areas together and ascertain the total cost just as if they were one rug. It is when they are thought of as rugs to fit a room that they keep their separate identities. Measurement is now in terms of comparison with the living room as criterion, and the comparison is performed by actual or imagined superimposition. The one rug cannot be added to the other. We may go so far as to say that for this purpose the rugs are intensive magnitudes.¹⁹

This illustration was made in order to show why there is to be no discussion as to what are the measurable properties of value considered in the abstract. There are various ways in which one may measure and various units which one may count. Whether the units are equal or unequal, whether they can be added or not, depends, as has already been said, on the purpose for which the counting is being done. To emphasize this by another illustration, let us take the case of buying toys for 100 children, one toy apiece. We can assign the number 1 to each of these toys no matter what shape, size, or variety the toy is. And each of these miscellaneous toys is, for our purpose of buying exactly 100, equal to every other. We can add them in any order—the 8 over here to the 2 back there, or the 2 there to the 8 here. We can take any one away from these 10 and have 9, then add 15 and get 24. The toys have become both equal and additive units and this because of the purpose for which we are quantifying them and not because of any innate structure. The purpose at hand has given to the toys the quality of "gift" for these children and each of the toys has exactly 1/100 of the total property.

The object being measured will of course also condition the kind of units used in that it makes some units possible and others impossible. Thus apples can be measured in three kinds of units

¹⁹ You could of course consider the length of the rug compared to the length of the room, and the width compared to the width of the room, and then you would be dealing with two extensive magnitudes.

—they can be counted, and each apple is then the unit we are interested in (for example, when we want to see that there is an apple apiece for the children at the picnic); they can be weighed, and the pound is the unit the housewife is interested in when she is going to turn them into applesauce; or they can be packed in bushels, and that is the unit the farmer is interested in when he sells in the market. Obviously, milk cannot produce all three of the above units, but it can produce the unit, a tablespoonful, which the whole apples cannot.

When we had before us the problem of the definition of value, we concluded that we must seek a definition in terms of a purpose. Now that we have arrived at the problem of quantification we must keep in mind that the comparison of values is also to be made in terms of a purpose, and the scales and the arithmetic involved in them must fit that purpose.

When objects are compared as to their *valuableness*, only the measurer and the objects of value are needed. When things are compared as to the degree they are valued, the situation requires a subject to do the valuing, the object or objects which he is about to value or not to value, and the observer who is to perceive this valuing process of the subject and record the object to which it is directed and also, if possible, its quantity. In this case the observer measures the activity along some value-scale, and assigns value-scores to the value-objects involved. Note that the scores are scores *made* by the agent, just as the high jumper makes the score of ten feet.

How is the observer to quantify the value-behavior? This observer is the educator, personnel worker, and others who were mentioned in the first chapter as being interested in the student's behavior now and in the future. How does the observer arrange the data representing the student's past and present behavior to show what the future behavior will be? Since he wants to be able to describe this future behavior in comparative terms, he is interested in comparative predictions of the following kind.

1. When individual *A* has to choose between *X* and *Y*, he will choose *Y* nine times out of ten. That is, given an individual faced by two or more competing values—what is the hierarchical order of these values and what proportion of the times does the hierarchy hold?

2. Individual *A* has certain means at his disposal—time, money, energy—with which he can obtain and enjoy values. On which values will he spend these means?

3. How does individual *A* compare with individual *B* with regard to choice between values *X* and *Y*?
4. How does individual *A* compare with individual *B* with regard to the values for which the means—time, money, energy—are spent?
5. How does group *G* choose between *X* and *Y*?
6. How does group *G* spend its means—time, money, energy?
7. What is the “demand quality” of the object *X* on individual *A*? on individual *B*?
8. What is the “demand quality” of the object *X* on group *G*?
9. What is the “demand quality” of the object *X* on the general population? As compared to object *Y*?

The respective measurement for each of these nine situations must be considered. A method developed for one type of quantification may not fit the other. Since it is individuals that perform the actual behaviors even when it is a group that is being measured or when the demand-value (affect-value, stimulus-value) of the object is being weighed, we shall concentrate our attention on quantification of the values of an individual—situations (1) and (2) set forth above.

Having accepted the theory that the fact of dispositional values allows for prediction and that dispositional values show themselves in behavior, we must grant by deduction that the more often behavior has shown “a certain dispositional value actually functioning,” the more likely it is that that value will continue functioning. Our question is whether we can make a more precisely quantitative prediction. Can we for instance say: In the past month *A* chose between *X* and *Y* in the proportion of 5 *X*’s and 10 *Y*’s; in the future he will also choose in that ratio; *A* values *X* and *Y* in the ratio that he chooses *Y* twice as often as *X*? Or, in another instance, can we say: In the past month *A* had 200 leisure hours; he spent 80 in getting rid of *W*, 50 in attaining and enjoying *X*, 40 on *Y*, and 30 on miscellaneous things; in the future *A* will spend 40 per cent of his time in getting rid of *W*, 25 per cent on *X*, 20 per cent on *Y* and 15 per cent on miscellaneous values?

In other words, can we use quantification of past value-behavior to predict future value-behavior in quantitative terms? Earlier, when discussing the fact that value becomes part of the self, dispositional, we compared such a concept of value to the concept of speed; for example, the speed of an airplane. To continue with the analogy—how does the pilot make the prediction: The speed of this plane is 200 miles? It clearly is a prediction. The pilot

means that if you took the plane up now, it could fly 200 miles per hour. He does not mean that it *did* fly 200 miles an hour. He certainly gets his prediction from past behavior of the plane, and, provided that he knows that nothing has happened to the plane since its last flight, he makes his prediction solely in terms of past behavior. But to make more sure of the validity of his statement he must take into account whether some event has occurred to the plane that will alter its speed as compared with its previous performance and whether the very last instance of speed is the determining factor of the future speed, or whether the mean of past speeds, or the mode or median would be better indicators. He must also allow for the atmosphere and the weather.

Identical considerations must be taken into account when a record of past valuing is used to predict value-behavior—to make the statement, *A* prefers *X* to *Y*. We record observed behavior in units of:

Time expended,
 Money expended,
 Energy expended,
 Number of times object *X* is chosen as ratio to number of
 times *Y* is chosen.

Just as speed is always expressed in the form of a ratio of miles per hour, so the above units of value-behavior cannot stand alone, except for the last, which is already a ratio. It is seen that the quantification can be made in two forms:

1. Value-objects can be compared and assigned a certain number of units which have significance only as ratios to one another and only with reference to the particular person performing the value-behavior. Examples:

As between *X* and *Y*, *A* spends time on them in the ratio of 4:7.

As between *X* and *Y*, *A* spends twice as much money on *Y* as he does on *X*.

2. Since the amount of time and money one has to spend is a definite quantity (leaving aside changes in income), the quantification of the value-object can be made in terms of so many dollars, or so many hours, as well as in terms of a percentage of time or of income. Examples:

A spends *K* hours per year on *Y*.

A spends half his time on *Y*.

A spends *M* dollars per year on *X*.

A spends 10 per cent of his income on *X*.

These percentages and ratios can be obtained from:

- The quantification of a single observed situation regarded as a unit,
- The summed quantification of several situations,
- The mean of the quantifications of several situations,
- The median of the quantifications of several situations,
- The modal quantification of several situations.

Which of these five possible ways of representing the quantification is the most valid in terms of the nature of the statement, *A* values *X*? It is difficult to give an answer in terms of the general population or even in terms of a single individual with regard to all his values. For the answer depends upon the consistency of the individual, and not only is there a difference in consistency of behavior from person to person, but also within one person from value to value. *A* may always be consistent in his choices, *B* inconsistent—veering from one value to another—while *C* is consistent as between values *X* and *Y* but inconsistent as between *W* and *Z*. Only very general rules can be stated without specific knowledge of the individual.

1. The quantification derived from a single situation (where such quantification can be made) will not be a valid score for most persons.

2. The mean and the median (where these can be obtained) will be valid for those persons who show little variation of behavior.

3. The sum of *X* choices compared with the sum of *Y* choices will not be valid if these summations cover a fairly lengthy period of time and show a majority of *X* choices at the beginning of the time period and a majority of *Y* choices towards the end.

4. If the mode is a high frequency mode, its reliability as a score is increased.

5. With some values, and when using a scale such as amount-of-money-spent, a summation for the entire period might give the most reliable scores.

It seems neither necessary nor profitable to extend the list of such generalizations at this point. But I do want to focus the attention of the reader sharply on the distinction between measuring an existential, occurring-right-now quality, such as the height of this boy at this moment, or the temperature of Room 311 at 2:30

p.m., August 15, 1942, and assigning scores to represent the magnitude as of that time, and measuring a quality (characteristic, trait) of an object to get a score which is to be representative of the nature of the object, of its "disposition," rather than of its momentary performance. We have seen that there is no great difficulty in determining whether $X > Y$ or $Y > X$ in the situation where valuing is being performed. The difficulty arises when we want to make the general assertion, *A values X* in preference to *Y*, rather than the specific assertion, *A is valuing X* in preference to *Y*.

The measuring of any kind of quality, that of a present quality or that of a "trait," involves measuring some phenomenon and recording the degree of the quantity present along some scale—the number of inches on the vertical yardstick which measures the child's height, the degree on the thermometer reached by the column of mercury, the amount of money *A* spent for *X* today. The assignment of magnitude scores to dispositional or trait qualities requires two further steps. Repeated measurements of similar phenomena must be made, and some quantity which is a function of the whole series of obtained magnitudes must be chosen as the score of the trait.

It is the operation of this step with which we were concerned when in previous paragraphs we stated that there was the necessity for choosing between the mode, mean, median, sum, last magnitude obtained, etc., as being the score of the trait, and that this must be a logical, not an arbitrary choice. Because this choice cannot be arbitrary, it is a judgment that must either be "frozen" into the scale if the scale is to be applied by "mechanical" observers like the ordinary citizen who, when reading the oral thermometer, sees the mercury at 99.6 and says the patient has one degree of fever, or the "intelligence tester" who measures the child by set rules and gets the score by set rules. It is possible, however, that no fixed set of valid generalizations will ever be found such that, in any individual case, the one applying the value-scale will not himself have to weigh the data and make his own judgment as to which quantity representative of the series of behaviors is to become the trait score. Measurement of traits may never, and I believe can never, because of the dynamic quality of personality, become mere number reading on scaled instruments, instruments which "can be manipulated by anyone in possession of a *minimum* of experience."²⁰

²⁰ B. Othanel Smith, *Logical Aspects of Educational Measurement*, p. 7. (Italics not in the original.)

It may seem to the reader that in spite of all the previous discussion of measurement, he is left with no more accurate method of quantification than an estimation of the degree of value. The reader is correct in believing that estimation by the measurer will always be necessary, but he is in error if he implies that the discussion has thus far led to no suggestions for obtaining greater accuracy in method because it has failed to eliminate estimative judgments from the quantification. A fact that must not be forgotten is that estimates vary greatly in their accuracy. The boy with his first camera and the experienced photographer both estimate distances, but their accuracy is markedly different. Many a housewife with an old-fashioned stove which has no thermometer on its oven door estimates with unfailing accuracy whether the heat of her oven is exactly at the degree necessary for baking that particular pie. Experience may increase the ability to estimate quantity so that small differences are accurately observed. Children in some Montessori kindergartens are given a set of containers of the same size but of different weight to play with, which they finally are able to arrange in order of weight with perfect accuracy. Of importance to us in the present inquiry is the fact that the accuracy of estimation can be increased not only by experience, but by basing the estimate on measurements made by some instrument or scale. If value-scales, functioning as a basis of estimation of value, can control the estimates in the direction of increasing accuracy, they become serviceable measuring instruments.²¹ Granted that quantified data derived from recorded past behavior is a not infallible and a not mechanically usable scale for measuring how much *A* values *X*, nevertheless the probabilities of its validity are greater than the probabilities of its degree of nonvalidity, and its degree of error is often not very great, perhaps not great enough to be of consequence for the purpose for which the measurement is being derived. The behavior scales already set forth will later be examined in more detail, and some additional difficulties of the time scale and the money scale will be discussed as found in an experimental comparison made between them.

²¹ That teachers' appraisals of character traits are so unreliable that "efforts directed toward the better measurement of these traits are of prime importance, although such efforts be but partially successful" was the conclusion of the Commission on Social Studies of the American Historical Association (Truman L. Kelley and A. C. Krey, *Tests and Measurements in the Social Sciences*, p. 490.)

Value Measured by Different Operations

By now the reader must have located a presupposition implicit in this behavioral measurement of values. All the scales suggested thus far have been made up of units termed something other than value. This is always the case in extensive magnitudes, such as length, for instance, where one does not measure in degrees of length but in units of feet or yards or miles. These length units, however, imply and are strictly reducible to each other, being only different quantities along the same scale. In our value-measures we have introduced different scales with different units on each. Length, to pursue the analogy, is also measured by different scales—not only by yards and miles but also by light-years, for example. Whatever the correlation between different length scales, however, no correlation between different value-scales can be deduced from it. The relation between the time scale and the money scale must be established empirically.²²

We previously said that value might be measured both intensively and extensively. So far we have dealt only with value-behaviors which could be reduced to countable units. It is also possible to arrange value-behaviors into a graduated series according to the different degrees of value which they indicate. Such series would form continuum scales. However, since we may contemplate continuum scales which are partly verbal and partly behavioral, a consideration of such scales will form the content of Chapter IX. Chapter VIII, which follows immediately, will concern itself with possible verbal scales.

²² “. . . in order to analyze the meaning of measurement, it is best to think of relations rather than of properties; the difference between the two points of view now becomes very important. For if we think of properties, we have to recognize that the same property can be measured in many different ways . . . If we think of the property, mass, we are assuming at the outset that there is something common to these different methods of measuring it, and are therefore prejudging one of the most important questions that we can ask, namely whether there is anything common to these different methods, and if so, what. On the other hand, if we think of relations, it is clear at once that the relations between systems that we investigate by one method are not the same as those that we investigate by another. If the nature of a magnitude is determined by the nature of the relations by means of which the systems possessing it are ordered—and this is the only view consistent with our outlook—then magnitudes measured by different methods are different magnitudes. After we have investigated them, we may find a common element which may lead us to describe them as the same magnitude. . . . ” (Norman Robert Campbell, *An Account of the Principles of Measurement and Calculation*, pp. 28–29.)

CHAPTER VIII

VERBAL SCALES AS INDICES OF DEGREE OF VALUE

The Referents of Verbal Value-Units

VERBAL SCALES may be classified in two categories (with several subheads under each), according to whether they express a value-behavior or provide a possible index of value-behavior.

A. Scales derived from statements expressing value-behavior.

- (1) Statements of past behavior answering the question,
What did you do?
- (2) Statements of future behavior answering the question,
What would you do?

B. Scales derived from expressions of feeling, set, attitude-feeling, ascription.

- (1) Statements of emotional feeling—like, love, hate, admire, fear, etc.
- (2) Statements expressing a feeling of obligation—I ought to, one has to, it is my duty to, etc.
- (3) Statements expressing right and wrong.
- (4) Statements of ascription of qualities to the object, which may fall into subheads (1), (2), or (3).

Previously we discussed whether value-feeling was an infallible index of value, and found it impossible to give an affirmative answer. Now comes the further question as to whether in those cases where feeling and value do go together the intensity of the feeling correlates with the degree of value measured by a behavior scale. There will not be much profit in trying to answer this question unless we can first draw up a scale of intensity of feeling, since the constructs about which a quantitative interrelationship is premised must be capable of separate measurement.¹ Because *like*

¹ Cf. Kurt Lewin, *The Conceptual Representation and the Measurement of Psychological Forces*, pp. 110–114. Also Ernest Nagel, *Principles of the Theory of Probability*, p. 10

is the most general and the most common word used to denote value-feeling, we may begin by asking what is meant by liking more and by liking less. Actually, this is now much easier to answer than it sounds. For like, in the behavioral sense, has already been considered under value-behavior, and like as a physiological reaction was ruled out of the discourse in an earlier chapter. Like, as a verbal statement, is what we have left to deal with.

The quantification of the verbal *like* is derived from two types of statements:

A statement of degree of intensity of liking made by the subject.

A comparative statement made by the subject to the effect that he likes *X* more than *Y*, or *Y* rather than *X*, or likes *X* and dislikes *Y*.

We do not have first to understand the meaning of "liking more" and "liking less" and "liking a lot." If we are going to use verbal statements to measure value, our task is to see whether and how the quantities they express (no matter what these mean) are predictive of the person's value-behavior.

Types of Verbal Quantification

When the subject expresses his degree of liking for *X*, he may do it in quantitative words, such as

like a lot
like a little
am indifferent to
dislike a little
dislike a lot

to which the measurer later assigns numerical quantities. In a variant technique the subject is given both the verbal quantities and the corresponding numbers and is asked to signify his liking in terms of the numbers directly. Sometimes the subject is given more numbers than quantifying terms. For example, a scale may be set up from -10 through 0 to $+10$, with 0 representing indifference, -10 the most intense hate the subject can think of, and $+10$ the most intense liking, and the in-between numbers representing graduated values along the scale.

When the subject is asked to state comparative liking, to compare the objects with one another rather than with a scale, several methods of quantification can be pursued. Some quantity, which

may be 0, is assigned to the rejected, and a larger numerical quantity to the accepted, alternative. Or if there are more than two objects, the subject ranks these in order of liking from greatest to least. He may or may not be asked to indicate differences of size in intervals between the various ranks. If varied intervals are not indicated, the measurer assigns numbers to the objects such that they follow the same rank order and have equal arithmetic intervals between them. If the subject indicates varied intervals between ranks, the measurer must find a numerical series which allows for such variation. The subject may or may not be allowed to assign the same rank of liking to two of the objects.

Just as in measuring value-behavior one was loath to take a single instance of valuing as indicative of dispositional value, so with verbal statements it follows that more than one expression of liking must be observed before we expect a correlation with value-behavior. How shall a plurality of such expressions be obtained with regard to the same object (or the same several objects considered comparatively)? Obviously, it will not do to have *A* bombarded with a list of fifteen questions all exactly alike demanding that he indicate on the accompanying scale the degree of his liking for *X*. It would help a little, but I do not think much, if *A* were asked the same question once a day for thirty successive days, or once a fortnight for a year. However, one of the reasons that verbal indices recommend themselves to the tester is that, in comparison with behavioral measures, he can get so much more data in so much less time. In fact, he hopes that in one brief time-period he can get all the data he needs for measuring. The way that this is done when a scale of liking is used, is to choose such objects of value for measuring as form a "class" that contains a number of particulars. The questions *How much do you like?* and *Which do you like better?* are asked with regard to various particulars. The numerical quantity is then assigned by the measurer to the class to which the quantified particular belongs. It is the class or classes of objects which are being measured with regard to value, in such cases, and not each particular. But there is no way of obtaining a score for the values dealt with, other than by respectively adding these separate numerical quantities which have been assigned to each class. Here is where we meet the problem of a lack of equal units, and therefore a seeming impossibility of valid summation. I can see no way of obtaining equal units of liking whether these are assigned directly by the subject or whether they are assigned by the tester on the basis of

the subject's comparative statements of "liking better than." However, the equal units difficulty, though not solved, is not actually a barrier to summation. It would be a barrier if a sum of 20 points of liking was intended to mean twice as much liking as 10 points.²

If, however, we hold to the fact that magnitudes on the liking-scale get their meaning from whatever correspondence they may empirically be shown to have with a behavior scale of value, then the fact that these magnitudes have been derived by adding nonadditive units which were not equal is not relevant.³ What does matter is that some methods of assigning and summing quantities for the particulars may bring a liking score for the class object which will correlate higher with the behavior-value score of those objects for the same individual. It may also be possible that various methods of obtaining the score give the same results.

Practically all that has been said of measuring by a scale of verbal liking holds true for measuring on scales of other value-feeling words. These scales, where the subject rates his intensity of feeling, would follow similar patterns. For example:

I must
 I think I ought to
 It doesn't matter whether I do or not
 I think I ought not to
 I certainly ought not to

 I approve highly
 I approve

² I agree fully with Goblots that expressions of "liking twice as much" or "three times as much," though popular, have only a figurative not a literal meaning. "Deux sortes de mesures psychologiques importeraient plus spécialement à la mesure des valeurs celle du plaisir et de la douleur, surtout si c'est à ces deux émotions qu'en dernière analyse se ramènent tous les biens et tous les maux; et celle des tendances, dont les 'préférences dynamiques' sont des résultantes. Si ces mesures deviennent un jour possibles, ce sera par des méthodes ingénieusement détournées qui sont encore à découvrir. Dans l'état actuel de nos connaissances, on se heurte à cette grande difficulté qu'il est impossible de percevoir dans une intensité de plaisir deux ou plusieurs intensités moindres dont elle serait la somme; nous ne pouvons même attacher aucune signification à des expressions telles que celles-ci: un plaisir double, triple, d'un autre, une douleur deux fois, dix fois, cent fois plus vive qu'une autre douleur. Nous pouvons seulement estimer qu'un plaisir est plus grand qu'un autre et, par conséquent, pourvu que les différences soient suffisantes, ranger des plaisirs par ordre de grandeur, il en est de même des douleurs." (Edmond Goblots, *La Logique des Jugements de Valeur*, p. 102.)

³ If *A* to be compared with *B* on the feeling-scale, then the difficulty of getting equal units cannot so easily be set aside, since units which added to make an arithmetic score of 20 for *A* would have no meaning if they did not equal *B*'s score of 20 similarly obtained.

I don't care one way or the other
I disapprove
I highly disapprove
It is very attractive
It is attractive
It is neither attractive nor distasteful
It is distasteful
It is very distasteful

Not all those who have sought to measure values have been satisfied to begin by ordering value-statements along a scale in terms of their employment of adjectives or adverbs of positive, comparative, or superlative degree. Two other methods for the quantification of endorsed verbal statements have become particularly popular, the Thurstone technique of equal-appearing intervals, and the outside criterion group method. The Thurstone technique makes no attempt to coordinate its scale-values with any behavior criterion. Thurstone expressly states that "the measurement of attitudes expressed by a man's opinions does not necessarily mean the prediction of what he will do. If his expressed opinions and his actions are inconsistent, that does not concern us now, because we are not setting out to predict conduct."⁴ However, all those who have worked directly with Thurstone in the construction of a series of scales by the equal-appearing intervals technique invariably cite, as in their favor, the fact that the average scores of different groups to whom the attitude-scales are applied differ in the expected directions. The criterion group technique, in contrast to the Thurstone, seeks to embody the relation between the verbal expression and value-behavior directly into the quantification assigned to the verbal endorsement.

In analyzing the validity of the method of equal-appearing intervals, we shall first examine how statements are ordered into a series differing in the quantity of the variable which they express.

A great many statements (130 were used for the Attitude-Toward-the-Church Scale) expressing favor, indifference, or disfavor to some one institution (the Church, God, the Law, Prohibition, Peace, etc.) are collected and printed on separate cards of which many sets are made. The statements used for a single scale are of many types—ascriptive statements, ought-to statements, statements of liking, statements describing behavior towards the institution, towards its support or towards its destruction. No one person is depended upon to order these statements into a positive-

⁴ L. L. Thurstone and E. J. Chave, *The Measurement of Attitude*, p. 9.

negative value continuum, and indeed the mixture of statements would lead one to expect disagreement between different raters. The judges (300 were used for one of the scales) sort the statements independently. They are asked to classify them into eleven piles equidistant from each other in value-estimate and ranging from extreme disfavor to extreme favor towards the institution which is being measured. Since the central pile is for neutral statements, the scale has an equal positive and negative range. All statements of the same degree of sentiment are to be placed in the same pile, but the judges are told that the statements are not evenly divided among the piles. No suggestions are given the judges as to the criteria to use in judging what is more and what is less favorable. For instance, when the statements expressing opinions about the church were to be sorted, the judges were told that the pile at one end was for "those statements which you believe express the highest *appreciation* of the value of the church," while the pile at the other end was for statements expressing "the strongest *depreciation* of the church."⁵ The sorter may therefore use any criteria he wishes for rating the statements.⁶ All judges are considered equally good unless they put too many statements into the same pile. In that case all the ratings of that judge are discarded. In analyzing the 130 statements of attitude towards the church which were presented for sorting,⁷ one notes that if one of the judges had rated by a criterion that statements expressive of behavior towards the church were farther away from the neutral point than statements of mere liking or approval, this judge's ratings would probably have been discarded. There being so few statements of behavior, he would have "overloaded" the piles towards the middle.

The determination of a single scale-value for each statement is made by the simple expedient of assigning to it the median of the judges' ratings. Statements on which the judges' ratings covered too wide a range are not used in the scale. In describing this technique for assigning scale-values, it has not been necessary to refer to principles of psychophysics upon which the Thurstone scales

⁵ *Ibid.*, p. 31.

⁶ Note that this sorting method is no different from a rating method. There are many statements and fewer value-quantities. A value-quantity from the given range is assigned to each statement, in the one case by putting the statement into a pile labeled with that quantity and in the other case by writing the quantity beside the statement. Seashore and Hevner compared the two methods and found the results to be quite similar. (R. H. Seashore and K. Hevner, "A Time-Saving Device for the Construction of Attitude Scales," *Journal of Social Psychology*, 4:366-372, August, 1933.)

⁷ L. L. Thurstone and E. J. Chave, *The Measurement of Attitude*, pp. 23-29.

are supposed to be based, and yet the procedure has been fully described. No psychophysical formula is used to change distances that have been judged equal to distances which are, in point of fact, unequal on some other scale. Nor is the psychological unit that is used the "equally often noticed stimulus difference" of psychophysics. In his scales Thurstone has not incorporated what he calls "the ideal unit of measurement for the scale of attitudes," that is, "the standard deviation of the dispersions projected on the psychophysical scale of attitudes by a statement of opinion chosen as a standard."⁸

Since Thurstone believed that his main contribution lay not so much in the development of the particular psychophysical method which he used for his scales as in "directing attention to the possibility of measuring attitude as a psychophysical problem,"⁹ one should examine first the validity of transferring psychophysical assumptions to the field of attitude or value measurement. While research in a new field will be furthered by bringing to play upon it principles from other fields and subject matters, "the existence of principles and habits which have emerged from prior reflective situations is not a . . . sufficient warrant for their continued success in new contexts."¹⁰ A method of empirical verification must be sought. Since Thurstone describes attitude as a "subjective and personal affair"¹¹ and not in terms of behavior, he has nothing against which to match the statements of opinion which he assumes are indicative of attitude. Since he cannot carry out "matching or correspondence in some form," which, Dewey emphasizes, "is the basic operation in all propositions in which determination of quantity, having existential reference, appears,"¹² he is reduced to "the common practice of discussing the adequacy of measurements by means of a theory which it is expected that the measurements will support."¹³

In the field of psychophysics proper, workers have not depended upon their metaphysical assumptions for verification of their measurements. Their metaphysical assumptions led them to devise certain techniques for the measurement of sensation, and to create

⁸ *Ibid.*, p. 19.

⁹ *Ibid.*, p. xii.

¹⁰ Ernest Nagel, *On the Logic of Measurement*, p. 58.

¹¹ L. L. Thurstone and E. J. Chave, *The Measurement of Attitude*, p. 7.

¹² John Dewey, *Logic: The Theory of Inquiry*, p. 214.

¹³ Norman Robert Campbell, *An Account of the Principles of Measurement and Calculation*, p. 37.

formulae to translate the psychological or judgmental quantification of sensation into physical units of quantity. Intervals judged as equal on the how-heavy-it-feels scale were compared with the actual differences in weight between the objects whose heaviness the subjects had estimated. One of the basic findings was that equal-appearing intervals according to heaviness-feel were not equal according to weight. It is surprising, therefore, that Thurstone should lay so much stress on the "equality" of his equal-appearing intervals. Nevertheless, since equal units on a continuum scale are not important unless individuals are being compared or groups being measured, and since we are more basically interested in the measurement of single individuals, we shall not at present discuss further the fallacious assumption that the Thurstone scales are marked off in equal units. The assumption that the median of a group of judgments is the "true" judgment does concern us.

The assumption that the median or mean of a group of judgments approaches the "true" magnitude being estimated as the group of judges increases, when brought over into the field of value-judgments, implies a certain metaphysical frame of reference. That frame of reference is that affective qualities (and social values) reside in objects, and while persons vary in their ability to judge these qualities, making errors of different size, the mean of a group of their estimations approaches the "true" magnitude of the affective quality. Since there is no way of measuring this "true" quantity other than by the subjective estimates, there is no method of validating the hypothesis. It can be refuted by empirical evidence that in certain fields the estimations of a large group of judges do not in fact form a normal distribution, a condition necessary to support the validity of the mean of the judgments, but the mere finding of a normal distribution does not *ipso facto* validate the assumption.

We do not, however, need to hold to assumptions of inherent values, as Thurstone does,¹⁴ to adopt some of the techniques called psychophysical and devised by persons who did hold such hypotheses. But in that case we must look for other ways of validating the experimentally adopted techniques. From the frame of reference of the present investigation, the fact that the Thurstone scales, when applied, do differentiate to some degree between crite-

¹⁴ See particularly, L. L. Thurstone, "A Law of Comparative Judgment," *Psychological Review*, 34:273-286, July, 1927.

tion-groups judged by a behavior index gives them more validity than any discussion of their psychophysical derivation. Nor is it surprising that they should have some validity. We have already come to the conclusion that a person's verbal statements have some relationship to his behavior, and that is all that the criterion-group differences obtained by the Thurstone scales confirm. It is quite possible, though we should not assume it without further experimentation, that better results would be obtained if the opinion-statements were quantified by a very small group of experienced observers of people's speech and actions, who, after discussing with each other the scale-value to be assigned a statement, made a combined judgment. Such a technique was used at the Harvard Psychological Clinic¹⁵ for rating certain personality variables.

One criterion for judging the validity of the Thurstone scales is to test whether they represent a continuum. Miller¹⁶ made one such analysis and found that the continuum did not hold well in spite of the fact that the Thurstone technique includes a formula for eliminating irrelevant statements from the scale, statements which are endorsed by persons who get widely different attitude-scores.¹⁷ Miller found that on the Peterson-Thurstone Attitude-Toward-War Scale the scores of his 290 college students distributed themselves along the scale but they each checked so many items (only 4 per cent of the students checked fewer than 8 items out of the 20 on the scale) that the mean range of the scale-values checked was 7.2 units, the range for the entire scale being only 10.8 units. He also found that students obtaining the same attitude-score checked groups of items which differed from each other in their range of scale-values, and that there were large variations in the number of persons checking each item even when the items had approximately the same scale-values. For example, items 10, 6, and 20 on the printed scale follow each other when placed on the value-scale, having respective scale-values of 8.3, 8.7 and 9.2. They were checked, respectively, by 41, 108, and 10 persons. Though more such investigations need to be undertaken before the Thurstone technique is set aside as less adequate than other methods, there is certainly little reason to grant it more validity except as it proves itself empirically.

One advantage of using judges to decide on how indicative of

¹⁵ Henry A. Murray, *Explorations in Personality*, p. 265

¹⁶ L. W. Miller, "A Critical Analysis of the Peterson-Thurstone War Attitude Scale," *Journal of Educational Psychology*, 25:662-668, December, 1934.

¹⁷ L. L. Thurstone and E. J. Chave, *The Measurement of Attitude*, pp. 45-46.

behavior a specific verbal statement is is that this procedure enables us to rate verbal expressions which contain positive degree adjectives but which have actual differences of degree connotation, as is frequently the case in the English language. Often degree of feeling is expressed by different words rather than by the comparative and superlative of the same adjective or adverb. Such expressions cannot be ordered as easily, and therefore with as little disagreement, as statements of like a little, like pretty much, like a great deal. Whenever there is such disagreement, it is of course necessary to find some means of getting the best estimate, and some form of group opinion may be the best method to go by until the quantifications are validated by an outside criterion.

The two best known illustrations of the criterion-group technique for assigning value-quantity to verbal statements are the Allport-Vernon Study of Values and the Strong Vocational Interest Blank. The methods in the two cases vary, but neither attempts to construct a scale or continuum of statements. Moreover, several interests rather than one are measured at the same time, so that what we get from the application of these questionnaires is the relative strength of the values measured.

The Strong technique begins with the collection of a long list of miscellaneous items in some way connected with the different vocations, interest in which is being simultaneously measured. The item might be, Do you like to see people chew gum?, which does not ask specifically about any vocation but which phrases a condition that will be met with frequently in certain of the vocations. Sample groups of persons actually engaging in each of the vocations are then selected. These groups are given the same questionnaire and each person is asked to respond to the items in terms of *Like* ? *Dislike*. Without going into the statistical formulae which have been used to determine just what score for each of the vocations should be assigned to a person who checks the *like* response for item x , it is enough to mention that the item is scored for every vocation in terms of the difference in its popularity among members of that vocation as sampled and members of all the other criterion-groups combined. This means that in the scoring key every item has many scores, one for each vocation for the *like* response, one for each vocation for the ? response, and one for each vocation for the *dislike* response. A person's total interest score for any vocation is the algebraic sum of his total responses as weighted in terms of that vocation. From the manner of weighting, it is seen that he gets a high interest score in Vocation X if

he has given answers similar to the majority of the persons in the X-criterion group.

The Allport-Vernon Study of Values and the Maller-Glaser Interest-Values Inventory (a more recent test based on the Allport-Vernon) pay little attention to the weighting of items. They use the criterion-groups mainly to select items which will represent one value only. They therefore present their items in groups, each group consisting of alternatives supposedly representing the different values being measured. The subjects are asked to indicate preference for only one alternative in each group. Only those groups of items are retained which significantly differentiate the criterion-groups; that is, each of the alternatives must be selected most frequently by the persons in the corresponding value group. It is not necessary that a majority of those who select the alternative belong to the corresponding value group, only that this group has significantly more voters for that alternative than has any one of the other groups.¹⁸ When this criterion holds, the item is retained and each alternative, when chosen, scores 1 for its corresponding value and 0 for the other values. The degree of difference between the votes of the groups thus does not enter into the scoring as it does in the Strong technique. Some sections of the Allport-Vernon test and also of the Maller-Glaser vary somewhat from the technique described, but the way in which the votes of the criterion-groups are used is similar.

It has been found by comparing average group scores that the Strong Vocational Interest Blank and the Allport-Vernon Study of Values do continue to differentiate between groups other than those used in the original validation. However, to get operational meaning from the statistics reported is no easy task. We must ask ourselves the question as to whether "resemblance scores" measure values defined behaviorally. Strong¹⁹ himself has sought to answer this question. He had some empirical evidence to show that his Interest Blank had some predictive value as to the vocation for which a young man will prepare himself by undergoing the required training, but he wanted evidence with regard to actual success in the vocation. He therefore kept a record for five years

¹⁸ For the actual figures which Maller-Glaser cite as indicating a valid item, see Edward M. Glaser and Julius B. Maller, "The Measurement of Interest Values," *Character and Personality*, 9:67-81, September, 1940.

¹⁹ Edward K. Strong, Jr., "Predictive Value of Vocational Interest Test," *Journal of Educational Psychology*, 26:331-349, May, 1935.

of the actual jobs held by a group of men, and also administered to them his Vocational Interest Blank. He found that (1) young men who obtain interest scores similar to the scores of members of a specified occupational group are more likely to enter that occupation than any other, (2) that those who leave an occupation have lower interest scores for that occupation than those who continue in that occupation, and (3) that the average interest score of those who continue in an occupation for some years is higher for that occupation than for any other. On the basis of these findings it can be said that the Strong test has some predictive value with regard to both entrance into and continuance in a vocation.

There are no problems (other than sampling ones) involved in the selection of criterion-groups for the Strong Vocational Interest Test. The criterion-group for the vocation of school teacher will consist of teachers; for the vocation of stenographer it will consist of stenographers. The Allport-Vernon criterion-groups cannot be selected so simply. The values tested are the theoretical (interest in the discovery of truth), the economic (interest in the useful and efficient), the aesthetic (interest in form and harmony), the social (interest in people), the political (interest in power), and the religious (interest in the wholeness of the universe). There is no group which can unquestionably be chosen as representing any one of the above values. Yet this had to be done. Scientists and college professors have been chosen to represent the theoretical interest, businessmen for the economic interest, authors, artists, and musicians for the aesthetic, social workers and nurses for the social, lawyers for the political, and ministers and divinity students for the religious. Whether physicians should represent the theoretic interest or the social interest becomes a problem. With this type of criterion validation, what can be said in behavioral terms of a person who obtains a high aesthetic score on the Allport-Vernon Study of Values as compared with his theoretic score? One cannot predict from evidence piled up by applications of the Allport-Vernon scale that a high score for a specific value will mean entrance into a certain behavioral field, but the empirical evidence would seem to permit us to predict that too low a score on a specific value will keep one out of a certain behavioral field. While correlations between scores on the Strong Vocational Interest Blank and the Study of Values cannot be used to validate each other, nevertheless it is of some significance that when the same subjects take both tests, the similarities and differences in obtained

scores between the two tests are in expected rather than unexpected directions.²⁰

The criterion-group method of assigning value to verbal statements seems a promising one to experiment with, particularly for the measurement of generalized values. More rigorous methods of selecting items, however, may need to be used, as well as a more careful selection of the criterion-groups themselves. It does not seem profitable to select and quantify verbal items solely in terms of criterion-groups no matter how removed from value-connotation the verbal items are, particularly if there is not to be a further validation of the scales by some means other than criterion-groups. It would in such a case be far too difficult to tell in what way people who get the same scores resemble each other. Wyman attempted to measure three interests as defined solely by three criterion-groups—a group of children rated by their teachers as having strong intellectual interests, a group rated by their teachers as having strong social interests, and a group rated high in activity interests. Wyman²¹ presented each of these children with 120 stimulus words to each of which one free association word was to be given as a response. From the free association words thus obtained, rather complicated scoring keys were devised. In response to the stimulus word "gem," the response "diamond" is scored 20 for intellectual interest, 11 for social interest, 15 for activity interest, while the response "Columbus" scores 3 for intellectual interest, 9 for social interest, 12 for activity interest, as do also exercise, biscuits, bread, city, Columbia, country, doughnuts, and jelly.²² This technique was taken seriously enough for Wyman's test to be used in Terman's²³ studies of genius. Kelley²⁴ adapted it to measure character traits such, for instance, as "regard for property rights," while Part Two of the Maller-Glaser Interest-

²⁰ Elizabeth Duffy and W. J. E. Crissy, "Evaluative Attitudes as Related to Vocational Interests and Academic Achievement," *Journal of Abnormal and Social Psychology*, 35:226-245, April, 1940.

A. C. Van Dusen, Stan Wimberly, and Charles I. Mosier, "Standardization of a Values Inventory," *Journal of Educational Psychology*, 30 53-62, January, 1939.

²¹ J. B. Wyman, "The Measurement of Interest," *Vocational Guidance Magazine*, 8, 54-60, November, 1929.

²² These figures are taken from the table of scores printed by Fryer, who gives one of the most complete descriptions of the Wyman test, which is not printed. (See Douglas Fryer, *The Measurement of Interests*, pp. 292-307.)

²³ Lewis M. Terman, *Genetic Studies of Genius, Vol. I, Mental and Physical Traits of 1,000 Gifted Children*, pp. 455-483.

²⁴ Truman L. Kelley and A. C. Krey, *Tests and Measurements in the Social Sciences*, pp. 342-437.

Values Inventory requires the subject to associate one of four words with a given key word. In this last case, however, the items do have a logical connection with the interests measured. Of the Wyman and the Kelley free association techniques for measuring interests and values, Vernon says:

These investigators would not attempt to measure arithmetical ability by a test which did not involve arithmetical processes; and yet they expect meaningless methods to yield meaningful results in the field of personality . . . it is difficult to believe that this blind empiricism which takes no account whatever of the psychological significance of the test situation and the test responses can yield fruitful results.²⁵

Quantification Relationships Between Verbal Scales and Value-Behavior Scales

In educational and personality measurement, it is common to assign scores which are numbers but which refer to no specified units. Thus a child has an I.Q. of 112, an arithmetic score of 81, and a perseveration score of 66. We do not heed the admonition of our grade school arithmetic teacher to put a name after our numerical answers. You cannot write your answer, she would say, as 53; you must tell whether it is 53 quarts, 53 pints, 53 gallons, or perhaps \$53. She is right in that if we do not name our scores they have no meaning except as they indicate a quantity greater or smaller than some other such score, or except as they are an indication of some quite specifically named event or magnitude. When we were discussing the measurement of value by behavior, we did deal with named units. The quantifications of verbal expression of feeling were, however, quite nameless as are the quantifications of most intensive magnitudes, magnitudes which cannot be measured fundamentally. The virtue of modern science, according to Nagel, "resides in the persistent attempts to obtain well-defined connections, expressed mathematically whenever possible, between qualities measured or measurable fundamentally and those incapable of such measurement."²⁶ Measurable fundamentally means in the above quotation fulfilling all the twelve axioms listed previously. Whether the measurement of values by the behavior-scales of time and money expended, or number of

²⁵ P. E. Vernon, *The Assessment of Psychological Qualities by Verbal Methods*, p. 98.

²⁶ Ernest Nagel, on the *Logic of Measurement*, p. 27.

occasions when X is chosen in preference to Y , follows all the twelve axioms or not does not alter the fact that these behavior-scales have "meaning," and the arithmetic values attached to different points on the scale also have "meaning." It would seem to me that the virtue of value-measurement would reside "in the persistent attempt to obtain well-defined connections, expressed mathematically whenever possible," between value measured in these behavioral terms and indices of value which cannot be so expressed.

In attempting to get such connections, two facts must be kept in mind. First, magnitudes "must be measurable apart from the law which relates them,"²⁷ that is, each of the magnitudes must be quantifiable in some way apart from the other; for example, the quantification of verbal statements suggested above and the quantification of the behavior-scales. Second, the relation between the two magnitudes can be of various kinds:

1. Linear correlation for which the Pearson r is calculated—an increase in one variable means a certain amount of increase in the other and this holds all along the two continuums.

2. Increase up to a certain point in V (verbal magnitude) means corresponding steady increase in B (behavior) until a certain point in V is reached; then B levels off no matter how much V increases.

3. Increase up to a certain point in V shows no change in B , but after a certain point in V there is a linear correlation with B .

4. The relationship is linear up to a certain point; then, though V increases, B levels off, and still further along V , B declines.

5. As V increases B increases, but the proportion of increase in B compared with increases in V differs along the line; for example, the amount of increase may steadily decrease as is supposed to be the case in the correlation between chronological age and intelligence.

Campbell's²⁸ recommendation of the use of graphic methods of denoting quantification rather than numerical methods, because the former can show a partial unity less complete than that of a numerical law, would seem to be a sound one to follow for depicting some of the above correlations.

²⁷ Norman Robert Campbell, *An Account of the Principles of Measurement and Calculation*, p. 60.

²⁸ *Ibid.*, pp. 72-74.

*The Relation Between Verbal Scales and Behavior Measures:
Experimental Evidence*

Among the literature on the measurement of attitudes and interests are to be found a number of studies which throw some light on the relationship between verbal statements and value-behavior. Some relationship has been found between *ascription* and *behavior*. H. N. Peters²⁹ reviewing experiments on judgments of pleasantness-unpleasantness claims that, so far as experimental results go, a positive correlation between judged *pleasantness* and *approach* to the object is to be found. In a series of experiments, Peters³⁰ attacked the problem of changing the affective judgment of an object. He had his subjects rate certain words for pleasantness-unpleasantness. He then had his subjects repeat some of the words aloud, whereas other words were not to be sounded at all. The oral repetition Peters terms a "positive reaction to the words," the non-sounding of the word he terms a "negative reaction." After being conditioned by these positive and negative reactions, the subjects again judged the pleasantness of the words. Peters found that positive reaction to the stimulus words increased their affective value, negative reaction decreased it. In general but not full agreement with Peters is Woodworth, who concludes his critical review of studies of pleasantness-unpleasantness with the following: "A general conclusion, not exactly forced by the evidence from the introspective studies of feeling, but at least rendered attractive, is that the feelings are reactive attitudes of the organism. Pleasantness and unpleasantness correspond to the attitudes of acceptance and rejection."³¹

Peters' studies were not carried out with regard to objects that involved strong emotional feelings. Certainly there was no ego involvement with the stimuli to be judged. If our feelings always changed to a higher degree of pleasantness because of an overtly positive response to a stimulus, then the common admonition, "Act as if you like it, and you'll like it," would embody a psychological truth. But the innumerable cases that can be cited to prove that such overt behavior increased the resentment against, and hate of, the stimulus should make us cautious about accepting

²⁹ Henry N. Peters, "The Judgmental Theory of Pleasantness and Unpleasantness," *Psychological Review*, 42:354-386, May, 1935.

³⁰ Henry N. Peters, "Experimental Studies of Judgmental Theory of Feeling," *Journal of Experimental Psychology*, 23:1-25, July, 1938; 23:258-269, September, 1938; 24:73-85, January, 1939; 24:111-134, February, 1939.

³¹ Robert S. Woodworth, *Experimental Psychology*, p. 241.

Peters' generalization. Woodworth's generalization is far less extreme. His conclusion is that feelings are reactive attitudes, which is not the same as overtly positive reactions.

The relationship between ascription and behavior has been investigated in a number of studies which correlate *ethical discrimination* with *ethical behavior*. Differences in verbal ethical discrimination between delinquents and non-delinquents have been found to be very small. Hartshorne and May³² found very few children who stated that certain actions which the Character Education Inquiry listed as cheating were not cheating. But more of these children were found among the high cheating scores than among the low cheating scores. However, differences between groups on ethical discrimination tests do not give adequate information as to the relationship between verbal approval-disapproval and conduct. What is needed is an investigation to find out if the rank-order of disapproval by an individual of certain acts corresponds to the rank-order of the number of times he commits those acts.

The relationship between *opinion scales* and scales made up of items on which the subject must state *what he would do* in a given case has been investigated by several writers. Rosander³³ tested the same subjects with the Hinckley-Thurstone Attitude-Toward-the-Negro Scale and with the Rosander Attitude-Toward-the-Negro Scale based upon behavior situations. Each item on the Rosander scale describes a situation where Negroes are involved, and lists one behavior reaction to the situation. The subject is asked to check whether he would or would not act as described on the test.³⁴ The items on the Rosander test are assigned scale-values according to the Thurstone technique and the subject's score is the median scale-value of the actions he claims he would perform. Students from the North and students from the South were each given two forms of the Rosander scale and one of the Hinckley-Thurstone. Correlations between the two scales for the Northern students were .781 and .712. Correlations between the two scales for the Southern students were .497 and .590. After correction for attenuation the correlations rose to .891 and .812 for the

³² Hugh Hartshorne and Mark A. May, *Studies in the Nature of Character, I: Studies in Deceit, Book One*, pp. 139-140.

³³ A. C. Rosander, "An Attitude Scale Based upon Behavior Situations." *Journal of Social Psychology*, 8:3-15, February, 1937.

³⁴ Example: Item 12. "You are bathing at a beach. Some Negroes approach and enter the water near you. You go to some other beach."

Northern group and .684 and .813 for the Southern group. On both scales Southern students as a group made lower mean scores than did the Northern students. Rosander emphasizes the commonality between the two scales and urges that scales be improved so that the correlation between opinion and verbal-behavior reaches between .80 and .90. Since he does not discuss which of the two types of scale is the more valid, a higher correlation between them would not necessarily increase the validity of either. If a scale is to obtain its validity because of its high correlation with another, then that other scale cannot obtain its validity because of its high correlation with the first. One of the two must be the fixed criterion which has obtained its validity from another source.

Pace³⁵ compared scores on his *Situation-Response Survey Scale* and his *Opinion Scale*, both of which tested for the liberalism-conservatism of social-political-economic attitudes. The Situation-Response Survey presented situations for each of which the subject had to choose one of several possible methods of behavior. The items on the Opinion Scale corresponded closely in content and idea to the Situation-Response items. The items on both scales were assigned scale-values according to the weightings given them by a group of judges. Pace found a correlation of .89 between the total scores on the two tests, but the matched items did not show such a high correlation. In fact, a number of matched items showed significant differences. Sometimes the group score on the Situation-Response item was conservative while for the matched opinion it was liberal, and sometimes it was the other way round. Pace does not claim validity for either one of the scales, and asserts that it is impossible to tell which of the two is the more valid.

Sayre³⁶ used a different technique but also compared *verbal opinion* with a *verbal statement of future behavior*. Scores on a Likert-type scale of attitude-toward-radio-advertising³⁷ were compared with the amount of money the subject said he would be willing to pay for a license fee if there were no radio advertising.

³⁵ C. Robert Pace, "Stated Behavior vs. Stated Opinions as Indicators of Social-Political-Economic Attitudes," *Journal of Social Psychology*, 11:369-381, May, 1940.

³⁶ Jeanette Sayre, "A Comparison of Three Indices of Attitude Toward Radio Advertising," *Journal of Applied Psychology*, 23:23-33, 1939.

³⁷ The scale consisted of 10 items each to be checked on a 5-point scale indicating the subject's degree of agreement-disagreement with the item. The answer most likely to be given by a person liking advertising gave the subject who checked it a score of 5; the answer most likely to be given by a person disliking advertising scored 1.

There was a very small but not statistically significant difference between the average score of those who said they would be willing to pay some money and the average score of those not willing to pay anything, those who would be willing to pay to do away with advertising being slightly less favorable to advertising. The distribution of scores on the two scales was quite different. On the "liking" scale the scores did distribute themselves, but on the "money" scale 78 per cent of the subjects said they would be unwilling to pay anything, even as little as 10 cents a year, to do away with radio advertising. Since the average scores on the liking scale were in the middle of that scale (2.74 and 3.31), showing neither a high degree of liking nor a high degree of disliking, one might expect the above results. Nevertheless, results might have been quite different if subjects had been asked to vote as to whether the time devoted to radio advertising should be drastically cut. The spending of money as a behavioral index may not agree with other behavioral indices of value.

The connection between *approval* of a behavior and *engaging in* that behavior was investigated by Acheson.⁸⁸ This was a present statement of past approval and a present report of past behavior, so the reports may have been quite inaccurate. Forty women of different ages reported that during their college days 6 had been neutral and 34 had disapproved of "marriage with the yellow race;" 40 had not engaged in it. With regard to "free love," 4 had been neutral, 36 had disapproved; none had engaged in it. With regard to "light petting," 8 had approved, 3 had been neutral, 29 had disapproved; 21 had engaged in it and 19 had not. With regard to "women smoking," 13 had approved, 4 had been neutral, 23 had disapproved; 15 had smoked and 25 had not. If we take these statistics at their face value, we see that there is a relationship between conduct and verbal approval, but that the degree of this togetherness differs for different behaviors even when they can all be classified under one heading, as in this case.

Kirkpatrick⁸⁹ reports correlations between scores on his *Belief Pattern Scale for Religious Attitudes* and *reported church attendance* during the two months preceding the taking of the attitude test. The average scores for those who had not gone to church at

⁸⁸ Eunice M. Acheson, "A Study of Graduate Women's Reactions and Opinions on Some Modern Social Attitudes and Practices," *Journal of Abnormal and Social Psychology*, 28:42-63, April-June, 1933.

⁸⁹ Clifford Kirkpatrick and Sarah Stone, "Attitude Measurement and the Comparison of Generations," *Journal of Applied Psychology*, 19:564-582, 1935

all during that time was -7.62 , for those who had attended 1 to 3 times the score was -1.00 , for those who had been to church 4 to 6 times the average score was $+10.44$, and for those who had gone as often as 7 to 9 times the score rose to $+13.96$. The scale allowed subjects to score as low as -35 , through 0 (neutral) to $+35$.

Allport⁴⁰ found that 98 per cent of the students who obtained a conservative score on his *attitude test* reported that they *voted* for the liberal candidate. Hartmann⁴¹ found that there was very little difference in the mean liberal attitude score obtained in 1936 by the teachers who had voted for Hoover and those who had voted for Roosevelt in the previous election, but the liberal score of those who had voted for Thomas was decidedly higher. Although those who had voted for the Socialist candidate had a far higher average liberal score than the others, few of those who had liberal scores voted for the Socialist candidate. Ninety-four per cent of those tested reported that they had voted for either Hoover or Roosevelt, and a goodly number did not vote at all.

The correlation between *professed attitudes* and *actual behavior* was investigated by Corey⁴² who measured the honesty of university students both behaviorally and on an Attitude-Toward-Cheating-Scale scored according to the Likert method and having a reliability of .91. For the behavior rating, a true-false examination covering the week's work was given every Friday for five weeks. Papers were turned in to the teacher at the end of the testing period, which was also the end of the class period. They were returned to students at the next class period with no marks made on them. Students then marked their own papers and reported their scores. Since there was no decrease in the amount of cheating as the weeks went on, the students evidently did not grasp the fact that their papers had been scored before being returned to them. The correlation between gross cheating scores (score reported by student minus previously recorded score) and scores on the attitude-toward-cheating questionnaire was practically zero. When only the fifty-two students who did cheat were used in the correlation, the resulting coefficient was still just about zero. Since there was a cor-

⁴⁰ Gordon W. Allport, "The Composition of Political Attitudes," *American Journal of Sociology*, 35:220-238, September, 1929.

⁴¹ George W. Hartmann, "The Social Attitudes and Information of American Teachers," in *First Yearbook of The John Dewey Society: The Teacher and Society*, pp. 174-230.

⁴² Stephen M. Corey, "Professed Attitudes and Actual Behavior," *Journal of Educational Psychology*, 28:271-280, April, 1937.

relation between cheating and "temptation to cheat," Corey used an index of cheating which allowed for the factor of temptation. This was the ratio of the difference between the perfect score and the recorded score. The results were no better than when "temptation" was not allowed for, the correlation being $+.13$ with a sigma of $+.12$.

The correlation between *professed interest* in an activity and *subsequent engaging* in that activity was found by Osborne⁴⁸ to be very low. Children, upon arriving in camp, checked the items on an interest-finder, and subsequently engaged of their own volition in activities not at all predictable from the interest items they had checked. This may have been due to the many new activities available that the child could try out for the first time. The age of these children was the age when interests are being formed, and the low correlation between the verbal and the behavioral indices may be due more to this than to any disparity between the two indices of value.

The cumulative effect of the above investigations, including the application of the Thurstone attitude scales and the Allport-Vernon Study of Values to criterion-groups, is such as to substantiate the assumption of a positive correlation between verbal and behavioral indices of value. When, however, we seek to estimate the degree of correlation, or even the type of correlation, we find the data quite ambiguous. The ambiguity is due not so much to the range of correlations reported as to the type of behavior criterion used for comparison. This behavior criterion is rarely a continuous variable. It is impossible, therefore, to conclude from the results found that the greater the value indicated on the verbal scale the greater the value displayed in behavior. When the behavior criterion is a dichotomous one (e.g., voted for the liberal candidate, did not vote for the liberal candidate), the analysis of the data usually discloses that the average score of the one group on the verbal scale is different from the average score of the other group, and that the difference is in the expected direction and consists of a certain number of points. It would be of great value if the analysis were made in terms of probabilities telling us that the degree of probability that a score of x and over, or x and under, would be accompanied by behavior of a certain kind. Such probabilities, to be even more useful, should be estimated for different ranges on the scale.

⁴⁸ Ernest G. Osborne, *Camping and Guidance*.

CHAPTER IX

POSSIBLE CONTINUUM SCALES

THE BEHAVIOR SCALES we discussed were all set up in *countable* units—number of hours spent, number of dollars expended, number of times chosen. The proposed verbal scales which were not merely verbal statements of the behavioral (the “I would do so-and-so”) scales were not made up of such countable units, but were stated in degrees of intensity or rank. The suggestion was made that these degrees should be empirically correlated with the behavior scales to get the correspondence in countable behavior units—a correlation of an “intensive” with an “extensive” magnitude. Value-behavior, however, can also be quantified on an intensive or continuum scale. Moreover, due to the fact that value-behavior, as defined, is not the single and specific event that the rise of mercury in a column is, there may be several types of continuum of the value-variable. Each type can form the framework of a value-scale. A number of such very tentative frameworks are suggested below.

Scale Derived from Variety of “Existences” the Object May Have

In Chapter V (pp. 58 ff.), the kind of “existence” that the object may have and the ensuing value-behavior related to it were described. But the same object (that is, the same class of objects, or the same type of object, as “apples” in contrast to “this particular apple”) can have different existences with regard to the subject at different times, and therefore his value-behavior with regard to the same object can change. For example, Tom offers Dick some candy—all Dick has to do is eat it. But the next day there is no Tom with a bag of candy. Will Dick spend his penny on candy and then eat the candy? Here we have two value-behaviors, the two of which may not always be displayed by the same individual with regard to the same object. We could make two separate scales

for these behaviors and then we should be on safe ground. However, creating totally separate scales for every different value-behavior leads to an undesirable severing of connections where connections do exist. To keep the possible connections in mind we can plot the quantification of these two behaviors in graphic form on one base line on which the several named points are marked off. Then we must find out whether these two behaviors are such that they form an intensive magnitude, one being included in the other. In that case we would find that some persons may enjoy or consume *X* when it is before them, but will not go so far as to spend effort, or time, or money to attain *X* when it is not before them. However, all those who do spend time, money, or effort to attain *X*, do consume (enjoy) *X* when they finally do attain it, or when it is before them. Arithmetic values can be substituted for the descriptive value-behaviors along the continuum. What these numbers are is immaterial as long as the order of the numerals corresponds to the order of the behavioral magnitudes.

Extending this possible 2-point scale to include negative valuing, and also one step farther in the positive direction, we might find an empirical 6-point continuum as follows:

Will seek out the object to destroy it or will join with others to destroy it.
Will actively destroy the object when coming upon it or will get away from it so there is no contact.

Will not destroy the object or go away but will leave it strictly alone when in a possible contact situation with it, making sure there is no interaction.

Will consume (enjoy) the object if it is there for him to consume.

Will seek out the object to consume it.

Will create the object and then consume it.

If such a series formed a real continuum (this is an empirical question and there may be individual differences), then numbers such as $-5 -3 -1 +1 +3 +5$ might be assigned with *no connotation of equality of intervals*. The numbers would get their meaning directly from the value-behavior for which they stood. The scale might, of course, be A B C D E F. However, the numerical scale has for its recommendation the fact that it can express positive and negative values and that the transitive asymmetrical order is more apparent. It is also more plainly seen that this order extends from a central point to the right and to the left, and not from one end of the scale to the other. Naturally, not all values can run the full gamut of such a scale. Sunsets can be sought out and enjoyed; you can turn your back on them, but

you can neither create nor destroy them. Objects that are non-existent—which are only in “mind”—either reach the top of the scale or do not rate at all. Moreover, the objective situation determines at which point or points on the scale one can score. If Johnnie gets a book for his birthday, he cannot react at $+3$ or $+5$; and a book is hardly the kind of object that necessitates -3 or -5 behavior, since here -1 is quite sufficient if Johnnie is negative to reading. Thus we should expect him to score either -1 or $+1$. If we wish to see whether we can credit Johnnie with anything higher on the positive side of the scale, then we shall have to observe him in situations where he and the object are apart but where it would be appropriate for him to go after the object. It will often be difficult to determine whether there was an opportunity for Johnnie to display $+3$ behavior and that he did not. We can record how many times he did display $+3$ behavior, but we may not be able to put it in the form of a ratio of so many times out of so many opportunities unless we set up an experimentally controlled situation. We have to take into account, as well, the fact that in the natural situation if both $+3$ and $+5$ are possible, they are alternative reactions. Johnnie can do one or the other but not both. We therefore cannot call him inconsistent if he skips $+3$.

We have more difficulty when we wish to assign Johnnie only one score for value X . If he consistently scores $+1$ when the object is before him and $+3$ when it is not, then a score of $+3$ would mean: Johnnie will enjoy X when he has it, and when he does not have it he will seek it out. But suppose for value Y Johnnie scores -1 three times, $+1$ seven times, $+3$ twice, and $+5$ once. What score shall we assign him? The $+1$ seems most representative, but it certainly does not give an adequate picture. Both the mean and the median would tend to make some positive behaviors cancel some negative behaviors and would therefore hide ambivalent valuing. It would probably be best to assign to Johnnie both a positive and a negative score by averaging each side of this scale separately. The quantification for every point on the scale must of course take into account the number of situations where it was possible for Johnnie to score at that scale-value. The number of situations for $+1$ will be the same as for -1 and -3 ; the number of situations for $+3$, $+5$, and -5 will be the same. Thus Johnnie's score for his 3 (-1), 7 ($+1$), 2 ($+3$), and 1 ($+5$) behaviors as well as for the two situations where $+3$ or $+5$ was possible but Johnnie did neither, is $3/10(-1)$; $7/10(+1)$ $+2/5(+3)$

+1/5 (+5) which is $-.3$; +2.9. If we had only this final score as a record of Johnnie's behavior, it would not be difficult to interpret behaviorally. Johnnie does not always enjoy *Y* when it is before him, but he rejects it fewer than half the times (otherwise the negative score would be at least $-.5$). Moreover, sometimes Johnnie seeks out *Y* and enjoys it, as noted by the fact that at least 1.9 (and possibly more) of his positive value comes from situations higher than +1.

If experimentally controlled situations or verbal descriptions of situations requiring only verbal responses were used, I think ambivalent scores would be more common and they would be ambivalent to a greater degree. When the extremes of the scale are offered to the subject as a set situation and the possible responses are also put before him, his field of choice is psychologically different from that in a situation which begins with only a lack or a need. There is no denying the fact that we often compartmentalize our behavior and are changeable to a considerable degree. Towards some value-objects love and hate may even be components rather than contradictions of each other. Nevertheless, I believe that the results of verbal tests have left the impression of a great deal more inconsistency of character than actually exists. This is primarily due to the fact that many tests put at opposite ends of a single continuum two positive values which are supposed to be the negation of each other. Whereas, in the scales we have been suggesting, one side of the scale represents behavior which tries to attain *X* and the other side behavior which tries to destroy it or its effectiveness, on a scale such as liberalism-conservatism we have radicalism at one extreme end and fascism at the other, both of which try to destroy many of the same things even when they are oriented towards different positive goals. This brings about a considerable overlap of elements on which the two extremes of the scale agree. Now if in the verbal questionnaire you put these common elements all on the positive side, then the negative scores will cover responses of too great a range; if you put all these common elements on the negative side, then many of those with total scores on the positive side will show too wide a range. If you put some of these common elements on each side of the scale, then there will be both high and low scores showing apparently inconsistent behavior. Checking the items on the scale by criterion-groups ought to eliminate these common elements, but the amount of difference required between the groups is often too small. Moreover, the number of elements belonging

only to one side may not be enough to locate certain of the people on that side. If X is the value represented on one side of the scale, Y that on the other side, z the common elements, x the elements of X not in Y , and y the elements of Y not in X , then a great many y elements plus few z elements may be less like the Y configuration than a great many z and few y elements. Of course, in behavior certain value-objects are also reacted to in parts; for example, liberalism in a congressman shows itself in voting for liberal laws one at a time. A particular law if set in a complex of fascist laws may aid that cause just as much as, when set in a complex of liberal laws, it will support a liberal social organization. The quest for a linear value-continuum encounters difficulty both because our environment is made up of complex as well as of simple objects and because many of our most consistent dispositions are in the form of "syndromes" rather than of "unitary" traits.¹ Most of what has been said in connection with this first suggested continuum scale applies also to those which follow.

*Scale Derived from the Degree of Nearness of the Object
Which Would Be Accepted*

Bogardus'² well-known social distance scale to measure nationality preferences is a good example of this type of continuum. The scale points are:

1. Would marry
2. Would have as regular friends
3. Would work beside in an office
4. Would have several families in my neighborhood
5. Would have merely as speaking acquaintances
6. Would have live outside my neighborhood
7. Would have live outside my country

Though this is a verbal scale, it can easily be adapted to one on which behavior is recorded. Application of the Bogardus scale to thousands of individuals has shown that the continuum does hold to a great degree, though in many individual cases steps are skipped.

The original version of the Bogardus scale³ was different from the one above in that there was a point on the scale where the

¹ Chapter XIV, on the naming of values, is an elaboration of this discussion.

² Emory S. Bogardus, "A Social Distance Scale," *Sociology and Social Research*, 17:265-271, January-February, 1933.

³ Emory S. Bogardus, *Immigration and Race Attitudes*, p. 25.

attitude was described in definitely negative terms. The scale points were:

1. Would admit to close kinship by marriage
2. Would admit to my club as personal chums
3. Would admit to my street as neighbors
4. Would admit to employment in my occupation in my country
5. Would admit to citizenship in my country
6. Would admit as visitors only to my country
7. Would exclude from my country

Those checking one point on the scale commonly checked all other points below it, until they came to points 6 and 7. For example, if point 2 above were checked, points 4 and 5 would also be checked, but point 6 would be checked very infrequently and point 7 almost not at all. Here we have exemplified the fact that the psychological distance between slightly positive and slightly negative behavior may be very great. From our point of view, when the application of a scale brings results which show that there is a gap between the positive and the negative sides of the scale, which the subjects do not cross, this validates rather than weakens the scale.

Scale Derived from the Threshold Concept

Another possible continuum scale might be constructed from an extension of the concept of "threshold"—the "amount of stimulation required to set an activity going."⁴ In connection with value-behavior, this would be the "degree of existence" of the object, so to speak, that must be present before the individual exhibits value-behavior towards it. This conception is related to the first proposed continuum and may be said to be a refinement of it. The same restriction holds that the full scale cannot be used for all objects of value.

- +4—The object is not present and is not presented to the subject in any form—he himself thinks of it and works for it, tries to get it or to create it.
- +3—A symbol of the object (word or picture) is presented to him and he responds positively with regard to the actual object.
- +2—The object is presented to him, or he comes upon it, and he responds positively.
- +1—He needs a lot of the object, or frequency of presentation, before he will respond positively.

⁴ Gardner Murphy, Lois Barclay Murphy and Theodore M. Newcomb, *Experimental Social Psychology*, p. 77.

- 0—He never makes any response.
- 1—He needs a lot of the object, or frequency of presentation, and then he responds negatively.
- 2—The object is presented to him, or he comes upon it, and then he responds negatively.
- 3—A symbol of the object (word or picture) is presented to him and he responds negatively with regard to the actual object.
- 4—The object is not presented to the subject in any form—he himself thinks of it and works to get away from it, to destroy it, to see that conditions are such that it cannot exist or come into being.

*Scale Derived from the Conception of Time Lag
Between the Verbal and the Behavioral*

The time lag between verbal attitude and overt behavior suggests another possible scale, but according to our previous discussion, even when this forms a continuum it may be in reverse direction for different persons. Possible steps in such a scale are:

- +4—Shows positive value-behavior towards the object.
- +3—Says he would consume (enjoy) the object.
- +2—Says he likes the object.
- +1—Says one ought to show positive value-behavior towards the object.
- 0—Says he is indifferent to the object.
- 1—Says one ought to show negative value-behavior towards the object.
- 2—Says he dislikes the object.
- 3—Says he would destroy, get rid of, the object.
- 4—Shows negative value-behavior towards the object.

If such verbal-behavior scales were experimentally used with varying verbal statements, graphic representation of the scores could be plotted, and from these data conclusions could be drawn as to whether a continuum did exist and what was the order of the reference points on it. However, from several years of informal observation of individuals with reference to these behaviors and statements, there does not seem to me to be much hope for getting a universal continuum of this kind. I believe the most that can eventuate are continuums which hold quite steadily for different individuals, and a knowledge as to which hold for a larger proportion of the population or for specified groups. The importance of getting such a continuum is that, if the continuum is valid, then a person scoring higher in one direction on the scale includes all the lower behaviors without the tester needing to observe these behaviors (or verbal statements). Also, with a verbal-

leading-up-to-behavior continuum, the tester could tell whether the subject is near the behavior end of the scale even though he was not able to observe the behavior.

Departing from continuum scales of direct indices, we shall consider several continuum scales where the indirect index is the only thing on the continuum. The indirect index may be verbal or behavioral.

*Scale Derived from the Degree of Probability That
the Available Means Will Bring the Desired End*

People are commonly influenced by the degree of possibility of attaining their ends. They weigh the "surety of the means"⁵ available to them. Dewey's urging that such weighing be done is heeded by the majority of persons, but their decision is not made solely on the basis of the degree of probability, nor do they accept the probabilities computed by some "expert." There is a psychological tendency to compute the attainment probability higher the more one values the goal. Also, the higher one values the goal the lower the probability of success the means may have and still keep its "demand" quality, provided no surer means presents itself and even if the means is dangerous or expensive. This allows us to set up a scale in terms of the chances one is willing to take for attaining a certain end.

Hartshorne and May⁶ constructed a scale of this kind in an attempt to measure attitude towards cheating. Various tasks were presented to the children in situations where cheating was possible, but in the different situations the cheating consisted of different behaviors as follows:

1. To erase a circle (in ink) and add another.
2. To erase a sentence (in pencil) and add another.
3. To erase a phrase of two or more words or add more words (pencil).
4. To erase a single word or add a single word (pencil).
5. To erase a digit or add a digit, with strong motivation for cheating provided (pencil).
- 6a. To erase a check mark or add a check mark (pencil).
- 6b. To erase an arithmetic answer or part of it or to add an answer, with strong motivation for cheating provided (pencil).

⁵ "la sûreté d'un moyen." (Edmond Goblot, *La Logique des Jugements de Valeur*, p. 44)

⁶ Hugh Hartshorne and Mark A. May, *Studies in the Nature of Character, I. Studies in Deceit, Book Two*, pp. 221-235.

For most children in this test situation the motivation was two-fold: to get a high score and not to be discovered cheating. The more negative a value cheating was for them, the more anxious the children would be not to be found "committing this sin," and the more readily would they forego the positive value of getting a higher score. From this follows the deduction that the more discoverable the situation in which cheating did occur, the less negative a value was cheating to those who committed it. Empirically, the cheating scale bore up quite well:

- 2% of the population cheated in situation 1.
- 17% of the population cheated in situation 2.
- 43% of the population cheated in situation 3.
- 51% of the population cheated in situation 4.
- 59% of the population cheated in situation 5.
- 80% of the population cheated in situation 6a and 6b combined.

The mean number of changes made by the group also progressively increased according to the order of situations listed above. Moreover, the majority who cheated in a situation cheated in all other situations where cheating was easier:

- 100% of those who cheated in situation 1 cheated in situations 2, 3, 4, 5, 6.
- 55% of those who cheated in situation 2 cheated in situations 3, 4, 5, 6.
- 68.5% of those who cheated in situation 3 cheated in situations 4, 5, 6.
- 77% of those who cheated in situation 4 cheated in situations 5, 6.
- 98% of those who cheated in situation 5 cheated in situation 6.

Nevertheless, Hartshorne and May wished to allow for the occurrence of step-skipping in arriving at an individual's cheating score. They first assigned scale-values to the steps on their continuum according to the standard deviations of the normal probability curve which correspond to the percentage of persons who cheated in that situation of the scale. Then, by a rather complicated procedure they measured the distance between the several steps and assigned to each step a score corresponding to the distance between it and the next lower level of the scale. Situations 6, 5, 4, 3 are each given a score of 1, situation 2 a score of 3, and situation 1 a score of 4. An individual's score is the sum of the score-values attached to the situations in which he cheated, the highest possible score thus being 11 and the lowest 0. One must not assume, however, that the use of statistical logic to transform unequal scale-steps into what appear to be correctly proportional numbers adds to the usefulness of the scale. In fact, change to abstract number may bring about a loss of meaningfulness. "For

practical purposes," says Scates,⁷ "the value of measurement is to add something to the description of a phenomenon or situation. It is to increase the significance of the description, to make it more complete and meaningful. It is entirely possible that this purpose may be better served, in some instances, through scale marks that are not equal, and which have no suggestion of units at all. The condition necessary for this to be so is for one to have vivid experiences with certain critical marks or values." On the Hartshorne-May cheating continuum, the mean, used for the total score, will not represent such a critical mark no matter what method has been used to arrive at scale-distances between the behavior-points.

*Scale Derived from the Degree of Negativeness
of the Barrier Which Must Be Overcome to Attain the Goal*

When a man decides, "No, I won't go that far to get what I want," he is ordinarily referring not to spatial distance but to a distasteful means to a desired end, a means which thus forms a barrier between himself and his goal. As in the previous scale, we take for granted that the more valued the goal, the more negative the means which will be accepted if necessary. We are not dealing here, however, with the probability of attainment. The attainment is sure if the individual wishes to pay for it with the acceptance of a certain negative value as well. The highest negative value that he will accept, if necessary, rather than relinquish the goal, may be considered a measure of the value of that goal.

The writer has experimented with one scale of this type. Going on the assumption that disobedience to parents is for many children a negative value, the following series of scale-points was drawn up to be applied in various situations where the child desired to do something which he thought would be contrary to his mother's wishes, and in some cases to the wishes of another authority that the child respected. The scale may either be applied verbally or used for observing and recording ongoing behavior.

1. You know your mother would not like you to do it, so without asking her to change her mind you do not do it.
2. You ask your mother to let you do it this time; she says no; you do not do it.

⁷ Douglas E. Scates, "The Essential Conditions of Measurement," *Psychometrika*, 2:32, March, 1937.

3. You ask your mother for permission, you do not get it; you argue the point, your mother still says no; you do not do it.
4. You ask your mother for permission; you do not get it, you argue the point, your mother still says no; you do it just the same.
5. You think your mother will refuse permission, you do it without asking.

With the few children informally tested, the scale did differentiate between higher and lower values. At the same time it allowed for a comparison between the strength of the authority of the mother and the father, for instance, and of the "disobedience threshold" of the several children.

Scale Derived from the Overtly Shown Physiological Response to an Object Which Is to Be Appreciated

De Boer⁸ used such a continuum to measure children's interests in radio drama. All the children were put in the "presence of the value-object" and their reactions were then observed and quantified as follows:

- 0—Not listening,
- 1—Listening attitude,
- 2—Intense interest or emotion shown in facial expression,
- 3—Audible response (laugh, groan).

Stage comedians commonly measure their appeal by such a scale, except that they extend it further along the scale to differentiate between the various types of audible response. The kinds of laughter heard are carefully distinguished from one another and a count is kept of each. Nevertheless, the theatre managers do not measure the appeal of an actor by the audience response. Motion picture actors are ranked yearly for popularity, but this ranking is done solely according to their box office appeal, that is, according to the amount of money that people spend to see the pictures in which they star. The inclusion of the above scale in no way means endorsement of it. The position is still held that if physiological reaction (sometimes taken as a measure of intensity of reaction) in the presence of an object is not followed by later attempts again to get into the presence of the object, or is not accompanied by remaining in the field of the object when there is no outside force to keep one there, these physiological reactions are not criteria of valuing.

⁸ John J. De Boer, "The Determination of Children's Interests in Radio Drama," *Journal of Applied Psychology*, 21:456-463, 1937.

The burden of much of the argument in this chapter and the preceding one has been that the order of items on a continuum scale cannot be created "by fiat." There will be many values which it is impossible to measure on a continuum-type scale. The controls of the social situation often fix the order of two value-behaviors but rarely of a series of half a dozen. If behavior towards the church were controlled in such a way that only those who attended were allowed to contribute to the support of the church, only those who contributed to its support were allowed to work for it, and only those who worked for it were allowed to determine its policies, then this would make a true continuum of behavior towards the church. When, however, the subject is free to behave in one way as well as in other inconsistent ways, then what seems a logical order may not represent a psychological order. Our primary line of inquiry, therefore, should be not the measurement of scale-point intervals but the search for psychological continuums.

CHAPTER X

THE SCALE OF INCLUSIVENESS

THE FACT of the *polytelism* of objects makes another possible basis for measuring values. Most objects, as they exist, have in them the possibility of satisfying more than one value. Moreover, no one quality of the object can be sought without other qualities of the object also forming part of the consummatory experience. An object is a whole and is attained or destroyed as a whole. The opera with its music to be enjoyed, its quality as a place to be in harmony with friends who also enjoy music, a place in which to show off one's new clothes, its "prestige" quality—all these are part of the value-object "opera." Even such a simple thing as an apple can satisfy one's eye, one's sense of taste, and one's hunger. This "conjunction of values" in one object, or *polytelism*¹—the "coexistence of diverse ends in the same value"²—may act to increase the demand-value of the object. The scale of "inclusiveness" for measuring degree of value has been commended by many writers on value-theory and ethics, including Dewey and R. B. Perry, and it has been objected to as invalid by others such as Pepper, Charner Perry, and Williams.

Actually there are several ways of quantifying inclusiveness, and each method may have a legitimate use. Confusion arises when the various types of conjunction of value are mixed together and the assertions made are now about one type, now about another.

1. Object X may be valued by individual A for three different objectives. It includes three of A's values.
2. Object X may be valued by A and B and C. It includes the values of three persons.
3. Object X may be valued by A for one value and by B for two values—these added together also give a score of three but this score has neither the same meaning as the score in (1) above, nor as that in (2) above.

The Utilitarians set up their ethical principle on the basis of (2)

¹ C. Bouglé, *Evolution of Values*, Chap. V.

² "It is not only that several ends, each in its turn, can make use of the same means. they can utilize it simultaneously." (*Ibid.*, p. 84.)

and (3), and many others have done so since. Dewey contends that one ought to use all three of these touchstones for determining choice. Only so, life is "good." There has been much controversy as to whether life is "good" on this basis. Pepper attacks Santayana for setting up this "principle of reason":

And what, in short, would be Santayana's argument based on a clearly discerned principle of reason (as distinguished from an interest of rationality)? It would go like this. An interest is a unit of value. The satisfaction of two interests is consequently more valuable than the satisfaction of one interest. The organization of all of an individual's interests to bring about the greatest sum total of satisfaction is accordingly more valuable than a life of chaotic mutually interfering interests which renders a smaller sum total of satisfaction. Therefore, by the same principle the organization of all interests whatever in the universe, giving the greatest grand total of satisfaction, is the maximum of moral value attainable, and consequently the moral standard. As a corollary to this final proposition it appears that if in the process of universal organization of interests all of an individual's interests or all of a group's interests should be frustrated, that individual and that group ought morally to approve of their own consignment to unmitigated misery or extermination.³

Whether or not inclusiveness is a valid ethical standard for action is, however, quite a different matter from the problem with which we are here concerned, which is whether or not the object of more conjunctive values is actually preferred to an object in which fewer values conjoin. It is at this point that Charner Perry⁴ accuses R. B. Perry of being illogical. R. B. Perry, he says, went from a theory of value related to the actual valuing of the person to quantification not so based. On this same basis, Williams attacks R. B. Perry's standard of inclusiveness as being "no measure of value at all."⁵

R. B. Perry, who, in the course of his discussion of a general theory of value in his book on that subject, did actually change his basis for quantification from his basis of definition of value, defends himself in a later article by differentiating between an "object of united interest" and a "case of united interest," and observing that his inclusiveness scale relates to a "case of united interest."⁶ Now, whereas the "case of united interest" may measure

³ Stephen C. Pepper, "The Equivocation of Value," *University of California Publications in Philosophy*, Vol. 4, p. 117.

⁴ Charner M. Perry, "Some Difficulties in Current Value Theory," *Journal of Philosophy*, 25:281-287, May 24, 1928.

⁵ Gardner Williams, *The Human Perspective, Being an Interest Theory of Value*, p. 48.

⁶ Ralph Barton Perry, "Value as an Objective Predicate," *Journal of Philosophy*, 28: footnote, pp. 478-479, August 27, 1931.

valuableness, only the "object of a united interest" measures the actually valued. As Perry himself says, his scale of "inclusive betterness" is *not* relative to a preferring interest.⁷ However, if the inclusiveness scale is to be used in connection with the present inquiry, it *must* be relative to the preferring interest. It may be true that some value-theorists have set themselves what Charner Perry calls the "impossible goal" of discovering "reasons which would be relevant and sufficient to a rational being who for the time being discarded all of his desires, prejudices, beliefs and principles."⁸ If the inclusiveness scale is such a principle, we cannot use it for measuring the degree to which *A* values *X*. But if the inclusiveness scale can be made a function of the individual's "desires, prejudices, beliefs and principles," it may be an excellent measuring rod.

Dewey differentiates between a purpose, aim, end-in-view, and a standard.⁹ He would call the scale of inclusiveness a standard. But *unless it is also a value*, I do not see how it functions in behavior. Actually, Dewey himself recognizes this. He describes, for instance, the imperative nature of habit, ties up the imperativeness of customs to their becoming habits, and then asserts that the reflective disposition (which generates standards, according to Dewey) arises "out of social customs" but "when it has been generated it establishes a new custom, which is capable of exercising the most revolutionary influence upon other customs."¹⁰ Since custom gets its imperativeness from becoming habit, and our habits, according to Dewey, as mentioned earlier, are our values, then these standards set up by reason are values if they function at all. However, from one aspect there is a very meaningful distinction between standards and ends. This is very well stated by Dewey:

. . . the standard is not the same as the end of desire. Hence contribution to the general good may be the standard of reflective approval without its being the end-in-view. Indeed, it is hard to imagine its being made the end of desire; as a direct object to be aimed at, it would be so indeterminate and vague that it would only arouse a diffused sentimental state, without indicating just how and where conduct should be directed. Desire on the other hand points to a definite and concrete object at which to aim. After

⁷ *Ibid.*, footnote, p. 478.

⁸ Charner M. Perry, "The Arbitrary as a Basis for Rational Morality," *International Journal of Ethics*, 43:132.

⁹ John Dewey and James H. Tufts, *Ethics*, p. 269.

¹⁰ John Dewey, *Human Nature and Conduct*, p. 78.

this end has occurred to the mind it is examined and tested from another point of view. . . .¹¹

That is, the point of view of the standard.

Inclusiveness is not the only such standard which moralists have set up. Many of the proposed objective values are such standards. Bentham made up a list of standards which he called "the *circumstances* which are to be considered in estimating a pleasure or a pain."¹² Some of the circumstances Bentham urges us to take into account are the intensity of the value, its duration, its certainty or uncertainty, its propinquity or remoteness, its fecundity, its purity, its extent. It will be seen that many of these are conditions of the value-object with respect to its existence. That they do affect the tenacity with which we set up a certain end-in-view as a goal we shall probably all agree from the evidence of our own experience. How far and in what way they affect our choices is a more controversial matter which it has seemed better to discuss in a separate chapter. The point of view which will there be elaborated is not that what is approvable according to these standards becomes an end, but that value-objects fluctuate in the degree of value they possess for the same person according as they do or do not meet such conditions as duration, propinquity, certainty, and so on. Some of these conditions have already been used as bases for scales, but the scales will be valid only to the degree that the condition embodied in the scale has the inferred effect on the person being measured.

All of this applies to the scale of inclusiveness. For some persons the standard of inclusiveness may have become a value. This is quite possible, since acting on a standard of inclusiveness is a *way* of acting just as acting honestly is a way of acting. If "honesty" is considered a value, then "inclusiveness" is also the kind of thing that can be a value. The empirical question to answer is whether or not inclusiveness is such a value, and to what height in the person's hierarchy of values it has attained. It is not necessarily at the top of the hierarchy. To the drunkard, it may function to determine the scale of all his values below liquor, but alcoholic drink tops it each time. To the mother, the welfare of her child may be above her values of honesty, non-murder, pride, fine clothes, satisfaction of hunger, ease—all added together. The

¹¹ John Dewey and James H. Tufts, *Ethics*, p. 270.

¹² Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation*, Chap. IV.

English language has two terms related to such values as take precedence over all the others put together—obsession, when the value is disparaged, and singleness of purpose, which, far from being a disparaging term, often has a laudatory connotation.

People who do not consciously measure their values according to the criterion of inclusiveness may, nevertheless, show a high degree of positive-valuing towards objects which embody more of their values. Whether one wants to explain this by some principle of conditioning, or of spread of value, or of economy of energy, or of the familiar taking precedence over the non-familiar, the fact is frequently observable that what one already holds dear in one respect one tends to find valuable in another respect as well, and the more ways in which the thing is found valuable the more does one adhere to it. Value-tests setting up many situations in each of which the same several values compete are actually embodying inclusiveness as a criterion of value-strength, since they ask the subject to respond to a number of different kinds of situations rather than to a repetition of the same type of situation. The value-score assigned the individual is the sum of the different kinds of events in which the value-object serves as the matrix of the goal. Using the scale of inclusiveness, we can, from the following record of *A*'s behavior, assign him a value-score of 7 for music.

He has leisure time to be spent at home—he plays the piano.

He wants to have an enjoyable evening away from home—he goes to a concert. There is a friend for whom he wishes to buy a gift—he gets phonograph records.

He wants to study something intensively—he takes music lessons and studies about music.

A friend of his wants him to go to a lecture—he goes knowing the lecture is on music.

He has invited friends to the house and wants to make the evening “go”—he plays the new records he has just bought.

It is time for him to plan a career—he decides to teach music.

Now suppose we also observe *A* with regard to value *Y* and find that *Y* scores only 4 on *A*'s scale of inclusiveness. It does not automatically follow that when value *Y* comes into competition with “music,” *Y* will lose out. However, that greater inclusiveness is one condition in favor of the value-object which has it is sufficiently accepted by institutions, such as the church and labor unions, for example, to make them extend their programs to serve numerous needs of their members, other than those which give their institution its distinctive character.

CHAPTER XI

SCALES RELATED TO THE BALANCE OF ALTERNATIVES

La *préférence* est aux jugements de valeur ce que la *discernement* est aux jugements d'existence. Dans les mesures empiriques, nous appelons *égales* deux grandeurs que nous ne discernons pas; nous appelons *équivalentes* deux valeurs dont nous ne préférons pas l'une à l'autre.

Edmond Goblot, *La Logique des Jugements de Valeur*, p. 101.

The view which I shall maintain . . . is that . . . there is only one standard of value for each man, and that all of his values are commensurable by that standard. This standard is the strength or intensity of his feelings, and this strength is exhibited in, and is accurately ascertainable from his preferences.

Gardner Williams, *The Human Perspective, Being an Interest Theory of Value*, p. 42.

Students of valuation disagree about the extent to which values are commensurate, so that for any given person in any given situation the relative magnitudes of the values to him of, say, a feeling of safety, a compliment, the beautiful sunset, a long-deferred smoke, and the cessation of a toothache can be computed. A safe step toward a solution is to realize that if the person does in fact prefer A to B, then he has set A as greater in value than B no matter how disparate they may be.

Edward L. Thorndike, "Valuation of Certain Pains, Deprivations, and Frustrations," *Journal of Genetic Psychology*, 51:227-239, 1937.

AS THE ABOVE quotations indicate, choice is a sign of value-difference, with the chosen value ranking above those rejected. Analysis of choice situations may, however, permit us to do more than merely name the top value. It may indicate more specifically the distance, in terms of value-quantity, between the alternatives. Whenever there is a choice, the speed of decision with which the choice is made can be measured. Sometimes a positive value will be accepted even though this choice means the acceptance at the same time of a great deal of negative value. In these and other aspects of the choice situation, conditions may be found which will provide the framework for value-scales. It may be worth while to turn for a few moments to their discussion.

Speed of Decision

If we look at value-behavior farther back temporally and psychologically than the point where movement towards the goal begins, we come to the period where choice is involved and with it speed of decision. Since the faster you decide the faster you reach your goal, one might expect decisions to come faster the more important the value being sought. The choice situation, however, involves a field not yet containing one path which has a greater demand-value than any other. Time is needed to restructure the field so that one goal definitely outweighs the others. When we do things automatically, by habit, it is not that there is no choice, but that the choice field is already structured so stably into a non-equilibrium of forces that movement in the direction of the greatest force can begin immediately. A period of decision is necessary when the choice field is unfamiliar to the chooser and he must first acquaint himself with what each alternative has to offer in the way of value satisfaction to him. A period of decision is also necessary when the alternatives do not yet represent a fixed hierarchy of values, or are so close together in the hierarchy that their demand character is about equal. The duration of decision will further be affected when the person is not satisfied with any of the alternatives in view, and attempts to restructure the situation so that new alternatives exist.

The fable of Buridan's ass who starved between two bundles of straw which were equidistant from him illustrates the simplest situation where the alternatives are familiar and only the balance of forces is involved. In such a situation the hypothesis seems sound that the time taken to make a choice varies consistently with the degree of difference in the values of alternative objects. When there is a case of unavoidable decision between two positive values, the duration of the decision may be a value-measure. Dashiell¹ reports an experiment on paired comparison of colors where for the group of choosers it turned out that the time taken to make a choice varied inversely with the amount of difference in the affective values of the alternative stimuli. However, Lewin² emphasizes the point that there are individual differences in the

¹ John Frederick Dashiell, "Affective Value-Distances as a Determinant of Esthetic Judgment-Times," *American Journal of Psychology*, 50:57-67, November, 1937.

² Kurt Lewin, *The Conceptual Representation and Measurement of Psychological Forces*, p. 200.

speed with which persons make up their minds. This means that a very speedy decider will have such a small range of indecision durations that it will be very difficult to tell whether the difference in value between X and Y is greater for him than the difference between X and Z . But, for those individuals who do vary in the amount of time they take to choose, the following statements might be assumed as holding within a familiar situation.

1. When A takes a long time to choose between two values, there is little difference between them.
2. When A takes a short time or hardly hesitates, then the alternative chosen is much more valued than the one rejected.
3. If, on having to choose between X and Y , A takes n minutes to decide and then chooses X , and on having to choose between X and Z , A takes $n + k$ minutes to decide but chooses X again, then A 's order of preference for these three objects is X, Z, Y .

Whether speed of decision is affected by the importance of the alternatives, by their position in the person's hierarchy of values, is another question that must be considered. Is choice made faster between values nearer the bottom of the hierarchy than between values nearer the top? If the two values which form the alternatives are both minor values, then the negative valence of giving up one of them will not be very great and may cause little delay in making the decision, even though both goals are close together in value-quantity. Following the same reasoning, one should expect a much longer period of indecision when both alternatives have high value and the negative valence of giving up one of the alternatives is very great. However, the difference in value between remaining undecided and getting nothing, and deciding and getting one of the positive values may be so great that it may hasten the decision. If the region of indecision is itself of negative value, we might expect that the greater the negative value of the region of indecision, that is, of the present position, the speedier the decision. Certainty or uncertainty as to how things will turn out is another factor entering the picture, and so is the possibility of getting the second positive value after having obtained the first.

If the choice is not between two alternative paths which lie ahead but is a choice of remaining in the present position or going in a direction where lie both positive and negative values, then the balance between the negative and positive values will be influenced by their distance from the person. If they are embodied in the same object and are at the same distance from the person, then the fact that negative forces usually extend over a shorter distance

than do positive forces may tip the scale in the direction of making the person start towards the positive value. Once started, commitment may be such as to allow no turning back even at the point where the negative value begins to be equal to or to outweigh the positive. If the relationship between the positions of the negative and positive values is such that you have to undergo the negative value before you can enjoy the positive, decision may be delayed for a long time. If, on the other hand, the negative and positive values are tied together in such a way that the negative value is an after-effect of enjoying the positive one, then decision time may be very brief since the negative value is the more distant and has the shorter field of force.

We have been discussing cases of unavoidable choice. But choice is sometimes avoidable, and the subject may hesitate while he tries to figure out a method of getting both his ends. Reflection may thus intervene to delay the decision. How long the reflection goes on will depend both upon the habits and the abilities of the subject. Better ability may bring faster decision but it may also slow down decision because more factors are taken into account. Some persons do a great deal of such reflecting before the choice situation actually presents itself. They figure out how to cross their bridges before they reach them. While the actual situation when encountered may present some new features, nevertheless it is already sufficiently clearly perceived to lessen considerably the period of delay.

Control of the factors influencing speed of decision might be arranged in a laboratory so that the speed of decision would measure the relative value of the alternatives presented. Of what value the results would be would depend upon how many choice situations there are in real life containing the alternatives used in the laboratory and with as few of the complicating factors. If ongoing behavior is to be measured by observed decision speed, then the situation will have to be analyzed carefully not only to make sure that any inference as to which alternatives are present be well founded, but also to allow for all the relevant factors which may bear upon the speed of decision besides the value-hierarchy of the goal objects.

Balancing Negative and Positive Values

Here we are measuring a positive value by the quantity of a negative value that will be endured for the sake of it, and measur-

ing a negative value by the quantity of the positive value wanted as a reward for enduring it. If for X you will endure pain and for Y you will not, then by definition you have shown that X is of greater value to you than is Y. A much more mathematical relationship is probably empirically true—the greater the amount of pain you will endure if necessary for the sake of X as compared to the amount you will endure for Y, then the greater the value-distance between X and Y. Thorndike³ has used this type of measure to compare the values of a very miscellaneous assortment of goods. For each of the items in the list, the subjects indicated the number of days they would be willing to spend in prison at hard labor, but with no disgrace attached, to get that particular item. That the responses were related to the psychological value of the goods rather than to their market value is indicated by the fact that many who said they wouldn't spend a day in prison for a farm or an automobile said they would be willing to spend two or three months in prison for \$500 cash. This led Thorndike to equate prison days with money by the following formula. For every student \$500 was divided by the number of days he had said he would be willing to stay in jail if given \$500. This gave the individual dollar-value per day in jail, and for each item this was multiplied by the number of jail days the subject had rated the item. The usefulness of changing to dollar-value is questionable. The items were already in rank order with unequal distances between them (and some tied) on the days-in-prison scale. This rank order was not changed. Furthermore, the money scale in this case could be actually misleading. The subject who was ready to spend more days in jail for a flute than for a farm was indicating that he might buy a flute but that he would not buy a farm. He was not indicating that he would pay more for the flute if he were buying both.

Thorndike⁴ also measured the comparative disagreeableness of a varied list of negative values by asking the subjects to indicate the minimum amount of money they would want to carry out the action described in the item. Not all the items turned out to be negative values for all the subjects. Some of the things they were ready to do for nothing.

³ Edward L. Thorndike, "Individual Differences in Valuation," *Journal of Abnormal and Social Psychology*, 33:71-85, January, 1938.

⁴ Edward L. Thorndike, "Valuations of Certain Pains, Deprivations, and Frustrations," *The Pedagogical Seminary and Journal of Genetic Psychology*, 51:227-239, December, 1937.

In both these experiments by Thorndike, the value in terms of which the quantification was made is one that can be obtained in varying amounts. When it is not, then all that can be said is that *A* will endure *X* for the sake of *Y*, but he will not endure *X* for the sake of *Z*. On a verbal scale, the subject might of course be asked how ready he felt he would be to undergo a certain negative value for the sake of certain positive values. This kind of scaling was used by Allport and Schanck,⁵ who asked students to rank such things as defending one's life, defending one's family, and protecting property, in terms of how justifiable it was to commit murder for them.

Choosing the Exception Rather than the Rule

In every case where a person claims that his behavior is an exception to what he usually does, and then proceeds to justify that exception, he is in fact stating that in this situation there arose for him a choice between the norm embodied in the conduct which was his general rule and the value served by the exceptional conduct, and that for him the latter value was the greater. The norm appealed to in justification of the exception is higher than the norm which was disobeyed, but the two norms rarely come into conflict; that is why the exception "proves" the rule, or as Urban⁶ says, "assumes" the norm embodied in the rule.

The Order in Which Goods Are Given Up as the Scarcity of the Means to Attain Them Increases

An increasing scarcity of money will make necessary the giving up of an increasing number of positive values that require money to be attained. An increasing amount of time necessary for a task that has been given first rank will necessitate the giving up of an increasing number of other activities. The order in which things and activities are given up can be considered to be in inverse rank order to the order of values in the person's hierarchy. The hierarchy obtained by using the money-scarcity situation may not be completely the same as the hierarchy obtained by using the time-scarcity technique, since time and money scales do not always agree. Moreover, some people may prefer to give up one major

⁵ G. W. Allport and R. L. Schanck, "Are Attitudes Biological or Cultural in Origin," *Character and Personality*, 4:195-205, March, 1936.

⁶ Wilbur Marshall Urban, *Fundamentals of Ethics*, p. 32.

value that costs a lot of money rather than a lot of little values that each cost only a small sum. This is especially true when only one decision is necessary to give up the major value, and once the decision is made the person is committed to the course of action, whereas, to give up a host of little things, repeated decisions to give up some positive value are necessary. Unless all these little things are classed together as one value, the obtained hierarchy will not be valid.

It may seem that possibilities for techniques that would serve as value-scales have been brought before the reader only to have them immediately hedged about by such limitations as most seriously reduce their validity. Nevertheless, it is just such dangling of principles and techniques and their consequent denial or reformulation which may in time lead to a solid foundation upon which can be erected the measurement instruments which form the interest of this volume. Such presentation of possibilities will also be embodied in the content of the succeeding chapter, this time not only for the derivation of value-scales but also in connection with an examination of factors, other than one's pattern of values, which influence choice and which must therefore be taken into account when value is being measured.

CHAPTER XII

PSYCHOLOGICAL LAWS AND VALUE- MEASUREMENT

TO DATE, the discovery of "laws" and the conditions under which they hold is an area which has received far less attention in the field of interest and attitude measurement than has the actual measurement of persons and groups by scales, the validity of which has been questioned even by those who have constructed them. On the one hand, little account has been taken of factors which may condition the scores obtained on value-scales, while on the other hand, too much has been taken for granted about the consequences which follow from the holding of a value. However, certain inquiries pertinent to these problems have been made, and these we shall bring together at this point. Two specific lines of attack merit consideration—first, the psychological and existential conditions which together with the hierarchy of values influence choice; and second, the effect of the strength of a value on the speed and amount of work put forth to attain it. It might be that out of an examination of these questions could be derived general laws, such as the following: If X is valued more than Y by A , then A will proceed towards X at a faster rate than he proceeds towards Y , and if he does in fact proceed towards X at a faster rate than he proceeds towards Y , then he values X more than he values Y . Since generalizations of this type, if valid, would supply us with additional indices of value that might, besides, be easier to use than the ones arising more directly from the definition of value, it is worth while to try to analyze relevant data gathered by various psychologists in terms of any such generalizations which these data might support, as well as for the purpose of discovering which factors in the situation must be accounted for when values are measured.

Psychological and Existential Influencing Conditions

PROXIMITY OF THE GOAL

That the strength of a value is a function of its distance—spatial, temporal, and psychological—is a generalization that has some supporting evidence. The embodiment of this principle in the often quoted proverb, a bird in the hand is worth two in the bush, shows that its recognition is of long standing. Pintner and Brunschwig,¹ however, found that children had no consistent tendency, when presented with a questionnaire which paired items of smaller immediate satisfaction with items of larger future satisfaction, to choose the immediate satisfaction. "To have one piece of candy today" got a larger vote than "to have five pieces next week," while "to have ten cents next week" was decidedly more popular than "to have one cent today." The nature of the items, the degree of difference between the immediately-to-be-had and the to-be-had-later quantities will, of course, influence the choice. Pintner and Brunschwig also found that there were differences between the boys and the girls, between the deaf and the hearing, as to the proportion of the immediate satisfactions chosen. Had these children actually been offered the immediate objects, the results might have varied.

Hull² has attempted to show that the relationship between proximity and value is not only positive but mathematical. His goal-gradient hypothesis asserts that "there exists an excitatory gradient extending with positive acceleration approximately according to the logarithmic law in an upward direction from the beginning of a maze to the reward box." While the law is stated in terms of the speed of locomotion relative to the distance from the goal, the deduction may be drawn that a shorter path to a less wanted goal may be chosen in favor of a longer path to a more wanted goal.

Lewin, as well as Hull, is of the opinion that the slope of the gradient away from a negative goal is different from the slope of the gradient towards a positive goal. "Frequently . . . the strength of the field forces which correspond to the negative va-

¹ Rudolph Pintner and Lily Brunschwig, "A Study of Certain Fears and Wishes Among Deaf and Hearing Children," *Journal of Educational Psychology*, 28:259-270, April, 1937.

² Clark L. Hull, "The Goal Gradient Hypothesis and Maze Learning," *Psychological Review*, 39:25-43, January, 1932.

lence diminishes much more rapidly with increasing spatial distance than do the field forces corresponding to the positive valence."³ Lewin's illustration is that of a three-year-old boy who wants to fetch a toy out of the ocean on to the beach but is afraid of the water. He will run a certain distance towards the toy and then stop at the point where fear of the water begins. Then he runs back, turns around from the safer distance and approaches the toy again. Hull⁴ recommends that this kind of description be applied to the behavior of young children who are confronted with a situation where positive and negative values exist together, so that they cannot have the positive without at the same time getting the negative value. Because of the unequal slopes of the positive and negative gradients, the first reaction in such a case will probably be an approach reaction. This approach will stop at the point where the negative and the positive valences balance each other. Should the child be placed (or himself move, since it is difficult to maintain position at a point) nearer to the object than the distance where for him there is an equilibrium between its positive and negative values, then withdrawal behavior will occur. This has bearing on the length of the period used for observing behavior. If the period of observation is too short, only the approach, or only the withdrawal, behavior may be noted in cases where both occur.

If it always held that the strength of a value is greater the nearer the person is to it, then the strength of a value could be measured according to the distance at which its "demand" character is still felt. The continuum scale derived from the threshold concept which was proposed earlier would in that case be a true scale, since it is a "distance" scale. However, Lewin⁵ raises certain exceptions to the goal-gradient theory. He points out that speed in the direction of a positive valence sometimes decreases as soon as the goal comes within reach, and that far away countries are more attractive than near ones. Another complication will arise when the path to the goal differs in attractiveness at various segments of its length. The properties of the "present region" influence behavior towards the goal as well as do the properties of the goal. Further, the factor of fatigue may enter. The course

³ Kurt Lewin, *A Dynamic Theory of Personality*, p. 92.

⁴ Clark L. Hull, "The Goal-Gradient Hypothesis Applied to Some 'Field-Force' Problems in the Behavior of Young Children." *Psychological Review*, 45:271-299, July, 1938.

⁵ Kurt Lewin, *The Conceptual Representation and the Measurement of Psychological Forces*, p. 95.

which Hull's rats had to run was far too short to show what influences fatigue would have. How certain one feels that he is going to reach the goal may also affect the speed. Uncertainty might slow the person until he gets within sight of the goal, and actual sight of the goal might be an accelerating influence. On the other hand, uncertainty might prove to be a driving force, and sight of the goal, bringing assurance with it, might retard speed. Another doubt with regard to the threshold scale is raised by the fact that the different value-behaviors necessary at the different points of the scale vary greatly in their difficulty of accomplishment. The creation of the value-object may be more attractive to some than the enjoyment of it, not because the work involved in creation is so much more pleasant for them, but because of the challenge of a difficult job, the prestige of having accomplished a none too easy task.

The degree of value may also depend upon how far along in the process of working for the attainment of the goal the person has got. To divert a person from an end at a time when he has not yet enjoyed it but has expended money and energy for it may be difficult, because at that time the end will have acquired added value from the means which were expended upon it. If the person has not yet started towards the goal, then it is only the imagined attractiveness of the end which counts. However, it is also possible that disillusionment arrives somewhere in the middle of the process so that the end loses its force and is turned away from before it is attained. On the other hand, a person may give up a goal already more than half within reach even when the goal still seems to have the same characteristics as when he started out to get it. The work he has had to do thus far may have changed the character of the striver in such a way that he no longer desires that end. Both literature and history are full of instances where an end that necessitated years of striving changed the whole person including that part of himself which had previously desired the very value which so altered him.

CONDITION OF THE VALUE-OBJECT WITH REGARD TO ITS SCARCITY OR ABUNDANCE

This is a factor which will have a major effect particularly on the value-behavior towards those goods necessary for physical maintenance. Food is a value in anyone's life, but the amount of time spent on eating is with some people negligible and the expenditure of money is the minimum possible. I do not agree

with Diserens and Vaughn, who conclude their review of the literature on motivation with a statement of four tentative laws, one being: "The energy of a motive varies directly with its primitiveness. Thus punishment and the desire for food or sexual expression are more energetic than social motives."⁶ However, a certain minimum of such basic goods as food is an absolute necessity, and when threatened, all available time, money, and energy may be expended on securing the needed supply. Poor people spend a much larger percentage of their money on food than do rich people; yet no one would say that more food lovers exist among the former. The basic necessities of life may rank very low in a man's hierarchy when they can be obtained in sufficiency for sustenance, but once that basic minimum is threatened they may move up in the value-hierarchy, even taking top rank among all values. However, even in cases where they are very severely endangered, we cannot state that these basic necessities always do assume top rank. It is not only the heroines of ditties who would "rather die than say yes!" All those who chose to be burned at the stake of the Spanish Inquisition rather than say yes to Torquemada's creed put other values above the "basic" one of life. Though many steal to obtain food, others starve rather than beg. Nevertheless we can generalize to say that when satisfaction of some values (and these are not limited to food, clothing, and shelter) is basic to the attainment of others, the former will shift in a man's hierarchy with changes in the environmental conditions which affect their security.

The future availability of a value will probably have an effect on value-behavior towards any but the least valued goods. Thus persons from a small prairie town visiting New York may go to the theatre five times in one week, but when remaining permanently in New York may go to see a play only once every two months. If the number of times one seeks out the valued object, or the amount of time one spends on it, is to be the measure of value, then a long enough period of time must be used and the uniqueness of events must be taken into account.

CONDITION OF THE VALUE-OBJECT WITH REGARD TO ITS ENDURANCE

In the discussion of the scale of inclusiveness it was mentioned

⁶ C. M. Diserens and J. Vaughn, "The Experimental Psychology of Motivation," *Psychological Bulletin*, 28:15-65, January, 1931.

that the length of time the value-object will endure (not how long we are going to value it) is a circumstance which heightens or lessens the degree to which the object is otherwise valued. There is probably a tendency in most adults, though not in children, not to sacrifice too much of time, money, energy, or other values for a fleeting value. However, it is quite possible for a value to rank high even though it be fleeting, and for another to rank very low even though it be long enduring.

SATIATION AND STARVATION

Here we deal not with the ease or difficulty of obtaining the value, but with the actual state of satiation or starvation of the person in relation to the value being considered. Experiments with animals have been performed to see whether the degree of negative value accepted (e.g., electric shock) to get the same positive value would be relative to the degree of starvation (with regard to the positive value involved). Other experiments have sought to determine whether the speed of locomotion towards the goal varies with the degree of deprivation. Many such relationships have been found. How far the results obtained in these animal experiments can be translated into principles obtaining in human behavior is open to question. One limitation stands out prominently. Food satiation means reduction of physical tension, the removal of the negative valence of hunger. Food deprivation means the maintenance of a negative value. Action with regard to the removal of, or to the getting away from, a negative value is not necessarily the same as action towards the consumption of a positive value, and a state where the negative value no longer exists is not the same as a state where the positive value has recently been enjoyed. Moreover, animal experimentation is in connection with periodically recurring bodily tensions. The rat cannot "learn not to miss" his food in the way that a frequent theatre-goer can learn not to miss the theatre when he moves to a rural village in Idaho. Even with animals it was found that all tensions did not increase with amount of time elapsing since last the need was satisfied. The urge of the mother to get to her young sometimes decreased as time went on and she was kept from her litter. Whether or not fixed relationships can be established between deprivation and value-behavior, the influence of psychological deprivation and satiation on value-behavior cannot be denied. This again has bearing on the length of time during which

a person should be observed and on the particular period chosen for observation.

REPEATED PRESENTATION OF THE VALUE

Here we have to examine a condition that may or may not lead to satiation. In behavioral terms it would mean, how long does the person keep "asking for more," and is there a tendency to "leave the field" after a certain number of contacts with the value. On the verbal response plane, this bears on changes in affective judgment with repetition of the stimulus and the judgment. Different results have been obtained in different experiments. Verveer, Barry, and Bousfield⁷ found that with musical recordings closely spaced repetition brought judgments of increased pleasantness up to an optimal peak and that thereafter there was a decrease, with subsequent repetitions getting judgments of affectivity even below the initial one. An intervening interval, however, tended to enhance the pleasantness of subsequent repetitions. Hunt and Flannery⁸ report that when subjects were asked to judge repeatedly the same set of standard colored papers on a 7-point scale of pleasantness-unpleasantness, the variability of any one person's judgments of the same color decreased as time went on. Whether there was an actual stabilization of affectivity or whether, as Hunt and Flannery believe, only the verbal judgment became stereotyped, it is an important factor to remember when one tries to infer a person's "true" feelings from the median or mean of his repeated verbal judgments. If persons do "talk themselves into" verbal attitudes, if they do tend, once they have repeatedly expressed a certain attitude, to adopt that as a permanent verbal attitude, verbal attitudes should show greater consistency than behavior unless it is a case where the verbal attitude itself conditions the value-behavior.

THE ANCHORING OF A VALUE-SCALE

Behavior continuum scales differ from the majority of verbal value-scales in that the former use numbers mostly as representative of definite behaviors which have been arranged in sequential order from those defined as indicating lowest value to those defined as indicating highest value, whereas the verbal scales characterize

⁷ E. M. Verveer, H. Barry, Jr., and W. A. Bousfield, "Change in Affectivity with Repetition," *American Journal of Psychology*, 45:130-134, January, 1933.

⁸ William A. Hunt and Jane Flannery, "Variability in the Affective Judgment," *American Journal of Psychology*, 51:507-513, July, 1938.

the several points in terms merely of greater and lesser intensity without referring the intensities to any experienced feelings. Hunt and Volkmann⁹ have found that an "anchored" scale will influence the judgments recorded on it. Anchoring means the selection of a certain definite stimulus to be representative of a certain point on the scale, a stimulus not among those which are being rated for their affectivity. This outside stimulus is held in mind as the judgments are made, and the stimuli to be judged are compared with it rather than with one another. Hunt and Volkmann found that when a scale is not anchored the intensity values represented by the various designations of most pleasant, somewhat pleasant, and so on, are usually determined by the group of stimuli being judged at the time. Anchoring the scale at its highest point to the most pleasant color the subjects could think of was found to extend the range of judgments and also to shift many judgments towards the anchored value. Thorndike¹⁰ has used a 10-point scale anchored at many points. The -5 degree of pleasantness was to be comparable to having a dentist work on the rater's teeth, or to being made a fool of in public; the -2 degree was to stand for something the person would never do except from duty or as a means to a desired end; an interest rated as $+2$ was to be one that the person would do without hesitation if he had the chance and if nothing more interesting were available; while an interest judged as $+5$ was to be one that the subject liked as much as almost anything he could think of.

The fact that affective ratings given to stimuli are a function of the particular list of stimuli being judged does not condemn them. If it did, then the rank order method of quantifying values would be invalid. The rank order or preference method is, however, the one most commonly used by us in actual behavior. Moreover, it need not bother those whose interest is not in measuring inner feelings, whether the tendency of some subjects to use the whole range of values on the scale they are to employ, and the tendency of others to use only a small range in the middle or at one of the ends, is due to differences in sensation or to differences in interpreting the scale.¹¹ To say that personal idiosyncrasies of

⁹ William A. Hunt and John Volkmann, "The Anchoring of an Affective Scale," *American Journal of Psychology*, 49:88-92, January, 1937.

¹⁰ Edward L. Thorndike, "The Interests of Adults," *Journal of Educational Psychology*, 26:401-410, September, 1935.

¹¹ See Paul Thomas Young, "Studies in Affective Psychology," *American Journal of Psychology*, 42:17-37, January, 1930.

bunching responses "distort" a scale, and to call these idiosyncrasies "constant errors," as Guilford and Jorgensen¹² do, has no meaning to anyone seeking to give significance to verbal responses in terms of their empirical correspondence to value-behavior. What is important are those factors of a verbal situation which alter the verbal response to the same stimulus.

NUMBER OF STIMULI JUDGED AT ONE TIME

That the number of affective objects to which we are exposed at one time will influence our judgment of them and the certainty with which we make that judgment is illustrated by the woman who was visiting the Metropolitan Museum of Art in New York for the first time and who said, "But there are so many pictures, I can't even tell which ones I like and which ones I don't." Hunt and Flannery¹³ found that when subjects were asked to make repeated judgments of the same set of colors on a pleasantness scale, variability in the judgments of the same subject for the same color increased with increase in the number of colors in the set to be judged that day. Since, as mentioned earlier, this variability decreased as the judgment period continued, no matter how many colors there were in the set, we may conclude that the number of objects being compared will be a factor in the consistency of rating when that particular set of objects is being newly responded to. Variability of verbal response has bearing on the fact that if verbal value-judgments vary with every variation in the conditions under which they are made, then it will be difficult to correlate verbal judgments with value-behavior. What we must consider is whether verbal value-judgments are affected by the same conditions and in the same way as are behavioral choices. The range of difference in value between the most liked color and the least liked color was for most of the students in the experiment referred to probably not very great. Still, there were twelve colors to be judged at one sitting on a 7-point scale. Though the colors were presented singly, nevertheless they were reacted to in terms of one another, especially as the same set was presented all over again for as many as ten repetitions. There is thus a comparison between colors even though the experimenter's directions did not ask for it. When differences are small it is difficult to establish a rank order

¹² J. P. Guilford and Ada P. Jorgensen, "Some Constant Errors in Ratings," *Journal of Experimental Psychology*, 22 43-57, January, 1938.

¹³ William A. Hunt and Jane Flannery, "Variability in the Affective Judgment," *American Journal of Psychology*, 51:507-513, July, 1938.

quickly, even when it is permitted to tie items for the same rank. The decrease in variability that Hunt and Flannery found as the set of colors was presented over and over again may be due to the final establishment of rank order as well as to verbal stereotyping.

Effect of the Strength of a Value on Work Put Forth

In the discussion of the location of values, it was stated that value was what you spent time, money, and energy to obtain. Then it was proposed that value be quantified by the amount of time, money, and energy put forth. However, no method as to how energy was to be quantified was made explicit. This was partly due to the fact that energy will usually be expended along with time, and that money is the symbol (in most cases) that energy has been put forth. To quote Thorndike: " 'What we spend our money for' may be translated into 'what we spend our working time for.' " ¹⁴ Also, if the proposed continuum scales are examined, it will be found that the energy required to perform the behaviors represented by the various points on the scale increases as the behavior is farther away from the indifference or zero point. If the actual quality and quantity of the work produced were highly correlated with the amount of energy expended then we should be able to measure value on an energy scale more directly. This is a question that needs investigation. Since it is usually taken for granted that when you put forth more energy you go faster, speed and its relation to the strength of the value being worked for will be considered first, after which other factors relating to energy and endurance will be examined.

SPEED OF GETTING TO THE GOAL WHEN YOU WILL GET THERE WHETHER YOU GO FAST OR SLOWLY

How often we hear it said, "If you liked it more you would be in a greater hurry to get there." Undoubtedly, in many cases speed of locomotion is increased with increase in the value of the object which is being sought for consumption. Is this often observed relationship between speed and goal-value a general law, or does it hold under only some conditions, or does it hold only for some persons? Lewin¹⁵ has given a good deal of attention to

¹⁴ Edward L. Thorndike, "What Do We Spend Our Money For?" *Scientific Monthly*, 45:232, September, 1937.

¹⁵ Kurt Lewin, *The Conceptual Representation and the Measurement of Psychological Forces*, p. 134.

the possibility of measuring forces by velocity. He puts it this way: "The basic coordinating definition of force relates forces to a locomotion in the direction of their resultant. One might readily think of relating the strength of the resultant force to the speed of locomotion." Lewin formulates many possible equations between speed and strength of force, but he does not claim empirical validity for any of them. He points out many factors which will limit speed, such as the unpleasantness of too great a speed, the total amount of work to be done before the goal is reached, and the characteristics of the path to the goal which may limit the speed possible, but he does assert that "the positive valence of the higher speed is itself a function of the importance of the goal."¹⁶ That there are exceptions to this general rule, however, will be confirmed by anyone who has watched a young child take the raisins out of his bun to save for the last, or has seen a person delay reaching out to consume a value so that he might enjoy a longer period of pleasant contemplation of the great satisfaction he is soon to have, or has observed a person put off the period of consumption until the time when conditions will be such that the value will lose none of its expected consummatory enjoyment.

SPEED OF DESTROYING A NEGATIVE VALUE

Lewin¹⁷ has considered speed of consumption as one possible measure of the strength of the value. He cites several experiments which showed that animals eat faster the hungrier they are and that with partial satiation there is a decrease in speed of eating. Lewin distinguishes between "getting satiated" as the goal of consumption and the enjoyment of eating as the goal, and points out that in the first case speed is increased while in the latter situation it is decreased. Since speed of consumption is so definitely related to the degree of speed in carrying on the activity of consumption which will bring the greatest degree of value to the object being consumed, it may be better not to consider speed of consumption at all as related to the degree of positive value. However, it may be a very useful relationship to consider with regard to negative values. Its universality here may be less open to question. There seems to be much less reason for going slowly about the destruction of a negative value than for going slowly about the consumption of a positive one. The difficulty of the job of destruction will, of course, affect speed. The negative value of the activity necessary

¹⁶ *Ibid.*, p. 159.

¹⁷ *Ibid.*, pp. 140-145.

to complete the destruction job may decrease speed, but in most cases its effect will be greatest only upon the length of time the person takes to bring himself to the point of attacking the negative value. Once the job has been started its unpleasantness should increase speed, since the faster the destruction is completed the faster will the person rid himself both of the negative activity necessary to destroy the object and of the negative value-object which is being destroyed. Moreover, in those situations where absence of the negative value creates a condition which is itself a positive value—and this is often the case—there should be a further increase in speed.

AMOUNT OF WORK PRODUCED WITHIN SET TIME LIMIT WHEN
STIPULATED AMOUNT NECESSARY TO OBTAIN REWARD

Competition in various forms is one of the most commonly used incentives. A prize is dangled before the worker which can only be attained by a specified output. The output specified may be a certain amount measured in absolute terms, or it may be an output greater than that of any others in the competition, or greater than the worker's own previous output, or greater than the output of the worker just ahead of him in the last competition. It is expected that if the reward is sufficiently attractive the workers will be spurred on to put forth greater energy. The converse of this generalization is also widely accepted, and it is assumed that an individual will produce a greater amount the more he values the prize offered. Maller¹⁸ used this criterion to compare the valuedness of high self achievement and high group achievement. He compared the quantity of work produced (simple arithmetic addition) when it counted for the child's own score and when it counted for the score of the group to which he belonged. Naturally, not only the degree of ego-involvement with the reward but also the possibility of attaining it, the knowledge of one's own output and the output necessary, knowledge of the output of others if there is competition between persons, will all affect the amount of work produced. A very high degree of ego-involvement may, however, produce enough nervousness and tension to slow down the work done. On the other hand, an aspiration level which is always set higher than the achievement of others in the field may have much more effect than the reward. Here a comparison of the value of different extrinsic rewards is impossible.

¹⁸ Julius B. Maller, *Cooperation and Competition: An Experimental Study in Motivation*, Teachers College Contributions to Education, No. 384.

What is the total import of the studies brought together in this chapter to have their data analyzed in terms of the formulation of general psychological laws which might form a working framework for measures of value? Though tentative deductions were made as the analysis proceeded, it would be rash to assume that one could draw from the experiments reviewed here dependable conclusions for use in value-test construction. It seems legitimate, however, to infer that if the various hypotheses suggested by the analysis formed the basis of investigations more directly focused upon a systematic testing of these generalizations, there would emerge data which would clarify the present ambiguities sufficiently to allow an affirmation or denial of the suggested "laws" and also a clearer formulation of the conditions under which they maintain their universality.

CHAPTER XIII

ASSIGNING A VALUE-SCORE TO AN OBJECT

WE HAVE BEEN DISCUSSING methods of measuring how much a person values an object. A large part of value-measurement to date has, however, concerned itself with assigning value-scores to objects. Most of these investigations are based on the theory that an object gets its value from the fact that individuals value it. The method, therefore, is to get a number of persons to appraise the same object. Their appraisals are then combined to form a single score which is assigned to the object. The value-score of an object is in any case always a function of the group from whose appraisals the score was composed. If the appraisals were in relative terms—preference of one object to another—then the value of the object is also a function of the group of objects which were being compared at the time. Sometimes the appraisers assign absolute values to the objects; however, the method used for getting a score for the object is such that the rating of the other objects enters into the score assigned to each one. Below will be listed a number of verbal methods of getting a value-score for an object. They will be grouped under the method used to get the evaluation from each individual.

1. *List the one (or 2, or 3) things that you most desire,*
or

Vote for one (or 2, or 3) items on the list.

The number of times each item is mentioned, or the number of votes each object receives, is tabulated. These numbers are then turned into percentages of the total votes cast. These percentages may then be arranged in rank order, and ranks assigned to the objects. If ranks are assigned, the unequal distances between objects will not show up. This is one of the most common methods employed. Jersild¹ used it in his study of children's fears and

¹ A. T. Jersild, F. V. Markey, and C. L. Jersild, *Children's Fears, Dreams, Wishes, Daydreams, Likes, Dislikes, Pleasant and Unpleasant Memories*, Child Development Monographs, No. 12.

wishes, and Lazar² in her investigation of the reading interests of children, to mention only two illustrations.

Sometimes allowance is made in the method of quantification for the difference in the number of items checked or listed if no particular number has been specified. For each vote, an item is assigned a fraction, the denominator of which is the number of items that voter checked. Thus if *A* checks 6 items and *X* is one of them, *X* receives a value of $1/6$, and if *B* checks 7 items and *X* is one of them, *X* gets a value of $1/7$. The common sense meaning for the statement, 39 per cent vote for *X*, is now gone, since its value-number no longer stands for the percentage of persons who value it positively. In fact, there is no way now of identifying the unit of measurement. Furthermore, an assumption has crept in that if you like 6 things you value each one only half as much as you would if you liked only 3 of them. This assumption has never been put to any kind of test. Such an attempt at refinement of quantification is an example of the manipulation of numbers in their abstract mathematical relationships without regard for the concrete quantities for which the numbers stand. When the number of votes given an object is changed into a rank, care must be taken not to read the fact of majority preference into the top-ranking objects on the list, since it is possible that no item received votes from as many as 51 per cent of the voters. Suppose the most popular item receives only 25 per cent of the votes (sometimes preferences are so varied that the percentage is lower), then it would certainly be misleading to say that *most* people like that item seeing that 75 per cent did not so express themselves.

2. *List (or check) the activities you engaged in during the past time interval specified.*

Here a behavior index is used but the method of quantification is the same as in method 1. Lehman and Witty³ had children check the games they had played during the past weeks, Foster⁴ asked them to list the games they had played during the past year, and Jersild⁵ had them list the radio programs they had listened to recently, while Lazar⁶ asked children to list the newspaper they

² May Lazar, *Reading Interests, Activities and Opportunities of Bright, Average and Dull Children*, Teachers College Contributions to Education, No. 707.

³ Harvey Lehman and Paul A. Witty, *The Psychology of Play Activities*.

⁴ Josephine C. Foster, "Play Activities of Children in the First Six Grades," *Child Development*, 1:248-254, September, 1930.

⁵ Arthur T. Jersild, *Child Psychology*, pp. 444-454.

⁶ May Lazar, *Reading Interests, Activities and Opportunities of Bright, Average and Dull Children*, Teachers College Contributions to Education, No. 707.

read most often and the books they had enjoyed most during the year.

From these illustrations it is seen that some investigators present a check list to their subjects while others ask for a free response. A comparison of these two methods of collecting data was made by the writer and is reported in Chapter XV.

3. *Check the items below that you like and double-check the one you like most.*

Here the subject is asked not only to express positive valuing but to differentiate from the group of positive-value objects the one most valued. There are several methods of quantifying such data, and a writer may use one or all of them on the specific data he has obtained:

- a. Disregard the double-check, or most preferred indication. Assign a value-score to each object according to the number of persons checking it.
- b. Count the number of double-checks (or first preferences) that an object gets and quantify these separately, not counting single-checks.
- c. Give double value for the double-checks the object receives, adding those to the single-checks to obtain the total score of the object. This is very rarely done. When allowance is made for the double-check, we are really using the rating technique for quantifying the value of objects.

4. *Indicate the degree of your liking for the items below by marking each one on the scale provided.*

As explained earlier, the scale may be a verbal one which the experimenter later quantifies, it may be graphic with no scale steps marked off and the subject may put his mark anywhere along the line from most negative value to most positive, or it may be a numerical scale with some explanation as to what each of the numbers stands for. The various ratings the object receives are summed, and the sum is divided by the number of persons who rate the item. Thurstone, in his attitude scales, prefers to use the median rather than the mean of the judges' ratings of the scale statements.

Saadi and Farnsworth⁷ had students rate authors on a scale of

⁷ Mitchel Saadi and Paul R. Farnsworth, "The Degrees of Acceptance of Dogmatic Statements and Preferences for Their Supposed Makers," *Journal of Abnormal and Social Psychology*, 29 143-150, July-September, 1934.

Like, Indifferent, Dislike, which were assigned numerical values of 1, $\frac{1}{2}$, and 0. Coutant⁸ scored the appeal of special features of a radio program by having subjects mark each item on a scale of uninteresting, fair, good, excellent, and assigning numerical values of 5, 10, 15, 20, respectively, to these ratings. Gerberich and Thalheimer⁹ measured reader interests in various types of newspaper content by assigning values of 3, 2, 1 respectively to ratings of great interest, average interest, no interest, given to the various news items.

Means¹⁰ asked college women to rate their fears on a scale of intensity from 1 (very slight) to 5 (most intense). Means subjected her data to a more elaborate technique of quantification than the simple one, that of obtaining the average rating of the object, as described above.

- a. For each item a score was first obtained by multiplying the average intensity of the item (the sum of the ratings given the item divided by the number checking that item) by the *percentage* of persons checking it and then multiplying by 10 to remove the decimal point.
- b. The standard deviation of these relative scores of all the fear items was then obtained and $\frac{1}{10}$ of this standard deviation was chosen as the unit of measurement.
- c. The next step was to measure off units of $\frac{1}{10}$ of a sigma in either direction from the mean of the relative scores, which was chosen as the reference point.
- d. The lowest negative $\frac{1}{10}$ sigma interval was then assigned a point-value of 1, the next lowest $\frac{1}{10}$ sigma interval a value of 2, and so on up the scale, the most intense fear getting a point-score of 61.

The rank order of the items arranged according to relative scores and according to point-values was of course identical except that not *one*, but a certain *range* of relative scores received the same point-value, since the point-values went by steps of 1 from 1 to 61, while the relative scores progressed by varied steps from

⁸ F. R. Coutant, "Determining the Appeal of Special Features of a Radio Program," *Journal of Applied Psychology*, 23:54-57, 1939.

⁹ J. R. Gerberich and J. A. Thalheimer, "Reader Interests in Various Types of Newspaper Content," *Journal of Applied Psychology*, 20:471-480, 1936.

¹⁰ Marie H. Means, "Fears of One Thousand College Women," *Journal of Abnormal and Social Psychology*, 31:291-311, October-December, 1936.

16 to 310 per cent. As compared with raw scores representing the average intensities assigned an item, such a technique brings about a neater quantification of a list of items separated from each other by numerically equal-appearing intervals. But nothing more can be said of the items and how they compare with each other after this standard deviation technique is used than before. One may certainly question a technique of measurement that necessitates a long process of added computations without itself adding anything to the interpretation of the numerical data.

5. *Rank the items below in the order in which you value them, assigning a rank of 1 to the item most valued, 2 to your second choice, etc.*

The ranking technique of measuring the value of an object is about equally popular with the simple checking technique. There are small variations in the way the ranking is done by the subjects. On a list of vocations presented to them by Stevens,¹¹ college women ranked in order the five they would choose first. Hunt¹² had 503 varied men and women rank seventeen ideals, while Hovde's¹³ subjects ranked in order of preference a number of glass containers that had been placed in front of them. Hartmann's¹⁴ subjects indicated their preferences for the various medical specializations by sorting in rank order of admiration a pack of cards on each of which was printed a medical specialization. Barnhart¹⁵ allowed his subjects to avail themselves of the possibility of variable spacing and of ties in the order of merit so as to allow for a finer expression of discrimination. The subjects placed the items (which were listed on cards) on a long table, one under the other in order of preference, spacing them in any way they saw fit or putting one on top of another. Peters'¹⁶ subjects also arranged cards on a table but no uneven or tied ranking was allowed. Like

¹¹ Raymond B. Stevens, "The Attitudes of College Women Toward Women's Vocations," *Journal of Applied Psychology*, 24:615-627, 1940.

¹² Alice McCullough Hunt, "A Study of the Relative Value of Certain Ideals," *Journal of Abnormal and Social Psychology*, 30:222-228, July-September, 1935.

¹³ Howard T. Hovde, "Consumer Preferences for Small Glass Containers," *Journal of Applied Psychology*, 15:346-357, 1931.

¹⁴ George W. Hartmann, "The Relative Social Prestige of Representative Medical Specialities," *Journal of Applied Psychology*, 20:659-663, 1936.

¹⁵ E. N. Barnhart, "A Spaced Order of Merit for Preference Judgments," *Journal of Experimental Psychology*, 25:506-518, November, 1939.

¹⁶ Henry N. Peters, "Experimental Studies of the Judgmental Theory of Feeling: I Learning of Positive and Negative Reactions as a Determinant of Affective Judgments," *Journal of Experimental Psychology*, 23:1-25, July, 1938.

Stevens' subjects, Pritchard's¹⁷ subjects did not rank all the items presented to them on the list. They were given a list of secondary school subjects but were to rank only those which they had taken. This meant that not all students ranked an equal number of items, and not all ranked the identical items. Garth and Porter,¹⁸ in investigating color preferences of young children, gave seven pieces of paper representing the standard seven colors to the child, had him select the most liked and remove it from the others, then select the most liked from the remaining six, and so on. Wells¹⁹ presented her items in groups of four, every group containing a sample of each one of the four types of literature Wells was investigating—slapstick, absurdity, satire, whimsy. Items were ranked by the students only within each group. The rank any item received was tabulated for the category to which it was supposed to belong.

There are several methods of quantifying ranked data, and in part the method is a function of the manner in which the ranking of the items was done.

- a. The ranks assigned by the various raters to each item are summed and the mean of these ranks becomes the relative value assigned to the object. Sometimes the median is used instead of the mean.
- b. To method (a) above is added a further step. The items are arranged in order of their mean rank value and then reranked from 1 to whatever the number of items is. This is the most common method used.
- c. Since Stevens' subjects did not all rank the same items, though they all ranked the same number of items, allowance had to be made for this variation. A weighted mean of the rankings for any one item was found as follows: (i) All the ranks assigned to any vocation were summed for that vocation; (ii) the mean rank was found by dividing the sum by the number of students who had assigned a rank to that vocation; (iii) this mean was then multiplied by the total number of subjects who were used as raters; (iv) the resulting product was divided by the number of persons who chose that vocation;

¹⁷ R. A. Pritchard, "The Relative Popularity of Secondary School Subjects at Various Ages," *British Journal of Educational Psychology*, 5:157-179, June, 1935, and 5:229-241, November, 1935.

¹⁸ Thomas R. Garth and Electa Penina Porter, "The Color Preferences of 1032 Young Children," *American Journal of Psychology*, 46:448-451, July, 1934.

¹⁹ Ruth E. Wells, "A Study of Tastes in Humorous Literature Among Pupils of Junior and Senior High Schools," *Journal of Educational Research*, 28:81-91, October, 1934.

- (v) the resulting weighted means were then put in rank order.
- d. In his method of quantification of rankings, Pritchard allowed for the variation in the number of items ranked. He divided the rankings of his raters into groups, each group consisting of the rankings of those who had rated the same number of items. The formula used for quantification necessitated a different computation for every group. His method gave greater weight to a first choice out of eleven than to a first choice out of seven, which involves an assumption that may not be warranted and can only be tested if this method of quantification is correlated with one whose validity is not in question.
- e. Hovde wished to make the distances between the ranked objects decrease as they came lower on the scale of group preference. The mean rank of each object was found and then the objects were arranged in order of their mean ranks. The object having the lowest average rank—nearest to 1—was given a value-score of 1.00. The score for each of the other objects was then found by dividing the mean rank value of the most preferred object by the mean rank value of the object under consideration. This necessarily resulted in a decimal.
- f. Since Barnhart's subjects ranked the items on a scale involving physical space, this space had to be quantified. He suggests that subjects should either have a fixed physical length for their scale with indicated positions for the best and least liked items, or else the space they use, no matter how long, should be given an arbitrary value of 100, and the positions measured off to determine the quantification for each item in the array.
- g. On the assumption that ranks are distributed in the total population according to the normal probability curve, and that therefore items which receive rankings near the median rank are more closely grouped together on the value scale, ranks have been translated into sigma units. Sigma scores will produce unequal distances between the objects but the value of changing to unequal distances between ranked objects has not been demonstrated.
6. *Check the item of each pair that you prefer.*
In this *paired comparison* technique every item is compared

with every other item, necessitating $\frac{n}{2}(n-1)$ judgments from each subject. Occasionally each pair is presented twice, once as *ab* and once as *ba*, since it is possible that the order of presentation will affect the stated preference. In this case there are $n(n-1)$ judgments to be made by every subject. Thurstone²⁰ used this technique to study nationality preferences, Vance and McCall²¹ to ascertain children's preferences among play materials, Folgmann²² to make a study of composer-preferences of members of symphony orchestras, Ledgerwood²³ to determine the affective value of words, Kuder²⁴ to gauge the appeal of various literary items, Eagleson and Taylor²⁵ to reveal the preferences of Negro women for major and minor chords, Ericksen²⁶ to ascertain individual differences in scholastic motives, Durea²⁷ to establish a hierarchy of juvenile crimes according to their judged seriousness.

Paired comparison data may be quantified by the simple method used by Vance and McCall who assigned to each object a value-score equal to the total number of times it was preferred, and then ranked the objects in order of the number of preferences received. The frequent use of a highly statistical technique for the quantification of paired comparison data can be traced back to an exposition by Thurstone²⁸ of the Law of Comparative Judgment for scaling psychological data. This is an attempt to change from the difference in the number of preferences objects receive to the "true" affective difference between them. In terms of trying

²⁰ L. L. Thurstone, "An Experimental Study of Nationality Preferences," *Journal of General Psychology*, 1:405-425, July-October, 1928.

²¹ Thomas F. Vance and Louise T. McCall, "Children's Preferences Among Play Materials as Determined by the Method of Paired Comparisons of Pictures," *Child Development*, 5:267-277, September, 1934.

²² Emil E. E. Folgmann, "An Experimental Study of Composer-Preferences of Four Outstanding Symphony Orchestras," *Journal of Experimental Psychology*, 16:709-724, October, 1933.

²³ Richard Ledgerwood, "A Comparison of Methods in Determining the Affective Value of Words," *American Journal of Psychology*, 44:796-797, October, 1932.

²⁴ G. F. Kuder, "The Stability of Preference Items," *Journal of Social Psychology*, 10:41-50, February, 1939.

²⁵ Oran W. Eagleson and Lillian E. Taylor, "The Preference of Twenty-Five Negro College Women for Major and Minor Chords," *Journal of Experimental Psychology*, 28:439-442, May, 1941.

²⁶ Stanford C. Ericksen, "An Experimental Study of Individual Differences in Scholastic Motives," *Journal of Educational Psychology*, 31:507-516, October, 1940.

²⁷ Mervin A. Durea, "An Experimental Study of Attitudes Toward Juvenile Delinquency," *Journal of Applied Psychology*, 17:522-534, 1933.

²⁸ L. L. Thurstone, "A Law of Comparative Judgment," *Psychological Review*, 34:273-286, July, 1927.

to ascertain the meaning of such scale-values, we must note that Thurstone in using this method for judging the seriousness of crimes²⁹ found that although a majority (56 per cent) of his subjects rated homicide as more serious than rape when these two were compared directly, rape assumed a higher degree of seriousness than homicide when his psychophysical formula of assigning scale-values was used. Thurstone does not pass off this discrepancy as being merely due to the unreliability of the data, although he says this was possible in the particular experiment described. He believes that such a type of discrepancy can occur with reliable data and that it does not invalidate the method.

7. *The "incentive value" of an object is often assigned to it as its value.*

The subject is given some task to perform, at the proper completion of which he will gain the object. Objects are placed along a relative value-scale according to the average speed with which the assigned task is performed when that object serves as the incentive. Sometimes speed of learning a new task is involved; sometimes speed of accomplishing a known task. This method, adapted from animal experimentation, has also been used quite extensively with children. It was used by Maller³⁰ and the Character Education Inquiry³¹ to measure cooperativeness, by Zubin³² to study the relative strengths of the desire of a student to get ahead of another and his desire to gain the approval of his teacher. Chase,³³ among others, studied the relative incentive effects of praise, punishment, and knowledge of success. Murphy, Murphy, and Newcomb³⁴ summarize a large number of incentive studies of praise, reproof, competition, and various rewards and punishments. In all incentive studies one must examine carefully to find out whether it is the incentive added to the situation by the experimenter that is the cause of variations in quantity or speed of work

²⁹ L. L. Thurstone, "The Method of Paired Comparisons for Social Values," *Journal of Abnormal and Social Psychology*, 21:384-400, January-March, 1927.

³⁰ J. B. Maller, *Cooperation and Competition: An Experimental Study in Motivation*, Teachers College Contributions to Education, No. 384.

³¹ Hugh Hartshorne, Mark A. May, and Julius B. Maller, *Studies in the Nature of Character, II Studies in Service and Self-Control*.

³² Joseph Zubin, *Some Effect of Incentives; A Study of Individual Differences in Rivalry*, Teachers College Contributions to Education, No. 532.

³³ Lucile Chase, *Motivation of Young Children*, University of Iowa Studies in Child Welfare, Vol. 5, No. 3.

³⁴ Gardner Murphy, Lois Barclay Murphy, and Theodore M. Newcomb, *Experimental Social Psychology*, pp. 470-499.

produced, or whether some other factor in the situation is producing changes in efficiency.

In closing this discussion of the assignment of value-scores to objects, reference must be made to the work of numerous psychologists on the affective value of various sensory stimuli. Subjects are asked to report how they feel when they see, hear, touch, taste, or smell the objects presented to them. The attempt is made to assign a general affective quality to an object independent of any particular observer. Beebe-Center,³⁵ finding that in one instance the tetrad equation held through a table of correlations obtained by correlating the ranks assigned by a group of subjects to a set of affective stimuli, claims that there is a general affective quality of a stimulus, disagreement with which by a particular person means insensitivity. He therefore recommends the factor-analysis procedure not only for the measurement of affective qualities, but for the measurement of values. This is another statistical attempt at finding an "objective" hierarchy of values.

In assigning value-quality to objects it is necessary to keep in mind that their value-score is a function of the persons from whom the value-data were collected. Actually, we have the score for a group of persons on that particular item, not the score of the item. When we detach the object from this particular group, and say the object has value, we are generalizing from a sample population to some larger population, or to the total population. We must therefore answer the question, Of what larger population is the group that gave us the value-scores a random sample with regard to the particular trait being measured? The population to which we can generalize the results of the specific data with any accuracy may be very small since so many factors affect our valuations. Indeed, we are still in a confused state as to what meaning to give to the group score obtained from the individual valuations. This latter problem is the prior task ahead of us.

The purpose for which we want to know the value of an object ought to govern the method by which we assign a value-score to it. The motion picture producers and theatre owners are interested in the profits the various actors will bring them, and the popularity of actors is therefore measured by box office appeal. It is the amount of money spent to see the actor that gives him his rating, not the number of persons who go to see him. He gets the same rating whether one hundred thousand people pay fifty cents each

³⁵ J. G. Beebe-Center, "General Affective Value," *Psychological Review*, 36:472-480, November, 1929.

or whether two hundred thousand spend a quarter a piece to see him. If children rank books in order of liking, should 40 persons ranking Book K second give it more than, or less than, or an equal amount of, value as Book F, which 20 persons rank first? If it is the school librarian who wants to know which books the children will select to read, she will need to know whether they read only their first choices, or their first and second choices, or their first three choices. Giving a weighting of 2 for the first choice and 1 for the second choice would mean that the librarian is assuming that all the children will read their first choice, but only half will read their second choice. To get more validity into her method of computation this librarian ought to ascertain how many books apiece the children do read.

The same sort of investigation must be made with regard to getting an object score via the rating method. If students rate their liking for the various extracurricular school activities on a 5-point scale from greatest dislike through indifference to greatest liking, how should these expressions of intensity of feeling be turned into a value-score for the object? If we want to get a hierarchy of activities relative to the number of students who will probably engage in them, then we must decide what degree of feeling will bring about participation. If any negative feeling means refusal to take part in the activity, then "dislike-a-lot" and "dislike-a-little" should both be assigned zero; if one out of four "indifferent" persons will take part, then that category should receive a score of $\frac{1}{4}$, and so on. If only those expressing a strong liking for sports take part in sports, then all the other categories should receive zero scores. Of course, if our interest were solely to increase hedonic intensity, then we should go about the method of quantification in a different manner.

CHAPTER XIV

NAMING THE VALUE

THE PROBLEM of the measurement of values contains not only the problem of recognizing the activity representing the transitive verb *to value*, and the problem of quantifying this verb; it also contains the problem of naming the object of value. This problem was touched upon in the earlier discussion of the functional autonomy of motives, but demands a much more extensive treatment at this point. It will do little good to make a careful quantification of the verb if we do not know precisely to what object to assign the value-score. Moreover, since most of our quantification relies on some combination of repeated acts, we must make sure that the repeated value-behaviors are directed towards the same value-object before we combine them into a single value-score. Much of the measurement of attitudes and interests has proven unreliable because of failure to pay attention to this source of error. Many investigators have supported the theory of the specificity of conduct because they did not allow for this factor either in the collection or in the analysis of their data.

We cannot get away from the difficulty involved in naming the value-object, partly because of the impossibly huge task it would be to name differently for every specific difference, as some semanticists wish us to do, and also because different-appearing things may actually be the same thing psychologically and we should therefore be making differences where none exist at the very time when it was important to recognize the similarities. Events and things recur, but they do not recur exactly in their previous form. We should not be able to predict at all, if we could not classify certain things together as being the same thing. In our analysis of the verb *to value*, we saw that value-behavior could be expressed by different overt movements. Similarly, the same object of valuing may be embodied in different material objects, in different activities, in different institutions.

The majority of those who have made classifications of human

values have set up their categories not according to the outward embodiments of that for which we strive—the material things we try to get, the physical conditions we try to maintain, the observable activities we seek to engage in—but according to the kind of satisfaction we seek from the object or the activity. An excellent illustration is the attempt on the part of Thorndike to determine what part of the nation's money that is spent on clothing (for instance) is meant "to gratify the desires for protection against cold, wet, animals, diseases, pain, for the reproduction of the human species, for pleasures of vision, for a happy sex life, whether by sensuality, romance, philandering, courtship or otherwise, for affection (i.e., to obtain it), for the approval of others, for self-approval (i.e., the sense of personal worth), for dominance over others, for the welfare of others and for any other desire which in fact led any person to buy clothing for himself or anybody else."¹

Allport and Vernon² also thought in terms of embodied values when they interpreted every specific choice made by those who took their test, in terms of Spranger's sixfold classification of values—theoretic, social, aesthetic, political, economic, religious. Sheldon³ mentions "objects" in his classification, but only to relate them by some one common aspect. His list, which follows, differs from Spranger's in only one category: those things which "satisfy immediately any *fundamental* instinctive sense-tendency" of a living organism; economic commodities; aesthetic or beautiful objects; moral conduct; religious objects; intellectual values. Perry⁴ has a list of values like Spranger's, all of which may be embodied in a single book. But these six, Perry finds, do not exhaust the value predicates of the book, so he adds a miscellaneous category into which he throws such a value as amusing along with many other possible characteristics of a book. Bouglé⁵ claims that values can be differentiated into the industrial, the scientific, the economic, the aesthetic, the moral, the religious, and the recreational, since these form our systems of interest. A list which claims to be completely inclusive of things or objects that men actually do value is set down by Urban⁶ as constituting eight categories: bodily

¹ Edward L. Thorndike, "What Do We Spend Our Money For?" *Scientific Monthly*, 45.226, September, 1937.

² G. W. Allport and P. Vernon, *A Study of Values*.

³ W. H. Sheldon, "An Empirical Definition of Value," *Journal of Philosophy, Psychology and Scientific Methods*, 11:113-124, February, 26, 1914.

⁴ Ralph Barton Perry, *General Theory of Value*, p. 10.

⁵ C. Bouglé, *The Evolution of Values*.

⁶ W. M. Urban, *Fundamentals of Ethics*, p. 161.

values, economic values, values of recreation, values of association, character values, aesthetic values, intellectual values, and religious values. This is much the same classification as that made by Everett,⁷ but differs somewhat from that of Parker,⁸ who also claims to have been essentially empirical in his classification by first surveying human affairs in search of the motives and values operating there. Parker lists "self-preservation or health; comfort, the interest in a maximum of sensuous pleasure; ambition, the interest in securing a place of consideration and power in the social order; workmanship, the interest in the efficient making and using of things; love in its various forms, as sex love, parental love, friendship, generic love, community love, and ideal love; knowledge; play; art; religion." Parker excludes food as a classification because "there is no food-outlook upon life." You value food because you value self-preservation, health, or sensuous pleasure. To Parker any understanding of human nature must be in terms of the major interests listed above.

A good deal of criticism of such classifications has been made, especially by psychologists. Yet it should be remarked that it was a psychologist who made one of these lists famous by using it as the basis of his test of values. It is not only the claim of inclusiveness that is repudiated. That would be a minor disadvantage. These master values are condemned as standing for social rather than for psychological realities. And indeed, it is the sociologists and philosophers who have been mainly responsible for creating these very similar lists. Psychologists go far in their condemnation of the attempt to analyze personalities by what are commonly named values. Ideals such as honesty are, they say, social not psychological concepts, and as such they need not have motive power. We do not strive to be honest in general, and it will depend upon the situation as to whether we are or are not honest. Hartshorne and May, reporting for the Character Education Inquiry, made this theory popular. After an extensive investigation by various ingenious testing devices, they came to the conclusion that "honesty appears to be a congeries of specialized acts which are closely tied up with particular features of the situation in which deception is a possibility."⁹

This doctrine of the specificity of conduct (from which it would

⁷ Walter Goodnow Everett, *Moral Values*, p. 182.

⁸ DeWitt Parker, *Human Values*, p. 46.

⁹ Hugh Hartshorne and Mark A. May, *Studies in the Nature of Character, I: Studies in Deceit*, Book One, p. 15.

follow that values have to be named very specifically) had its greatest popularity in America just about the time when gestalt psychology first came into vogue. In fact, the new psychology may have had some influence on the retention of the theory. For although gestalt psychology emphasizes the importance of "wholes" and decries the interpretation of the dynamics of life which divides a person up into numerous separate desires, it at the same time preaches a field theory which may be interpreted as signifying that the specific situation completely determines the person's goals in that situation. This leaves him with no personality and no values to measure. Many self-admitted disciples of gestalt theory fail to include a most important concept in the situation principle, namely, that the "sameness" of the situation is a function of the individual whose situation it is. If to him it is the same situation no matter how the outward features have changed, then it is the same situation behaviorally though not geographically.¹⁰ Gestalt theory holds that a behavioral situation is only created by an individual with a goal and that its circumference and structure greatly depend upon him at the center. There is thus no need to rule out stable personality traits. However, there is also no *a priori* commitment either to objects of value which are large "wholes" (general values) or to narrower, more specific ones.

In our search to name values in as convenient a form as possible we must, of course, avoid the danger of uniting under one rubric "innumerable neuropsychic dispositions that are in point of fact independent of one another."¹¹ Some who condemn the value-names we listed earlier set up other value-names as being those which do properly combine specific behaviors. Thus Dessoir¹² believes that the style of life is the principle upon which the classification should be made. He proposes a threefold division: the *Seinsmensch*, the being-man "who simply goes on living" and has no particular goal in life—he would show no great positive or negative values; the *Lebensmensch*, the life-man, the easygoing type whose values could all be subsumed under the desire to live comfortably; the *Leistungsmensch*, the striving type, the achievement-man, whose values could all be subsumed under the desire to achieve some thing, to bring humanity forward. In common

¹⁰ See Kurt Koffka, *Principles of Gestalt Psychology*, pp. 27 ff.

¹¹ Gordon W. Allport and H. S. Odbert, *Trait Names*, Psychological Monographs, No. 211, 1936.

¹² Max Dessoir, "Character Types," *Character and Personality*, 3.214-221, March, 1935.

with Spranger, Dessoir does not expect any one person to be entirely of one type, and therefore any man can be measured for the relative division of his values in these three categories, in the same way that Allport and Vernon have used the six Spranger categories.

It may be well to mention two more "psychological" classifications, two that are more closely allied to value terminology than is Dessoir's. Cattell groups interests according to the general nature of libido expression: "detached, objective, unemotional interests in impersonal things; interests of an aesthetic-religious type with projected emotion; interests involving self-activity and direct emotional expression; sensual-sexual interests; social and human interests and attachments to other people."¹³ Then there is Thomas' famous fourfold classification of wishes elaborated in his study of Polish immigrants: "the desire for new experience, for fresh stimulations; the desire for recognition, including, for example, sexual response and general social appreciation, and secured by devices ranging from the display of ornament to the demonstration of worth through scientific attainment; the desire for mastery, or the 'will to power,' exemplified by ownership, domestic tyranny, political despotism, based on the instinct of hate, but capable of being sublimated to laudable ambition; the desire for security, based on the instinct of fear and exemplified negatively by the wretchedness of the individual in perpetual solitude or under social taboo."¹⁴ This wish classification of values was used by Krout¹⁵ to analyze specific behaviors which students recorded as having engaged in during the week.

Since any classification of values gets its validity from its effectiveness in accounting for observable behavior, we may say that any of the class names given to values are adequate if persons are in fact consistent with regard to the particulars of any one category. But must this be a universal consistency? If only some persons are consistently honest in all situations, does the term honesty lose its worth as the name of a value? When Watson¹⁶ asserts that consistency from one situation to the next would be very high if only we named an individual's traits to fit the psychological struc-

¹³ Raymond B. Cattell, "The Measurement of Interest," *Character and Personality*, 4:164, December, 1935.

¹⁴ William I. Thomas and Florian Znaniecki, *The Polish Peasant in Europe and America*, Vol. I, p. 73.

¹⁵ Maurice H. Krout, "Wish and Behavior," *Journal of Abnormal and Social Psychology*, 29:253-268, October-December, 1934.

¹⁶ Goodwin Watson, "Next Steps in Personality Measurement," *Character and Personality*, 2:66-73, September, 1933.

ture of his personality and warns that we cannot expect to find coherence in tests built around "such ethical abstractions like bravery, charity, courtesy, kindness, patriotism, temperance, unselfishness, and the like," is he not contradicting himself? For there is nothing to prove that these ethical abstractions will not fit the psychological structure of some personalities. For some of the children who took part in the Character Education Inquiry, the factor of honesty may not have been present in the situation at all. They changed their marks, or refrained from changing their marks, in terms of some other motive. For some of them, the factor of honesty was undoubtedly present, although in many cases it was not the highest value in the situation.

Unless we deny values their social parentage, we have no reason for condemning one set of trait-names for their social origin while accepting another because of their more specifically psychological terminology. What we must beware of is not to fit any name to something which it does not describe truly. There is some attempt at present to look for trait-names in correlation tables. Lorge¹⁷ has condemned this creation of traits by factor analysis because the factors will not represent "pure" traits freed from the influence of other traits, and Allport¹⁸ is opposed to it on the grounds that it is contrary to the theory of functional autonomy. Certainly, statistical parentage gives no necessary legitimacy to the offspring. Factor-analysis tries to fit a name to something which the correlation table seems to show is common to a number of persons. What it is that is common the figures themselves cannot name, nor does such commonality imply dispositional traits. Many interest tests based on one set of classifications have been submitted to factor-analysis and from the results other category names have been proposed. The Allport-Vernon Study of Values and the Strong Vocational Interest Blank have been so factored. The tendency on the part of some to accept the statistical results without further questioning is to be deplored. There is no *a priori* guarantee that the value-names derived by statisticians from a set of correlated test results will better fit the psychological structure even only of the individuals who took the tests than will the value-names thought up by psychologists, sociologists, and philosophers through their observation of human beings. More recently, the inverted factor technique which correlates persons instead of tests and claims to

¹⁷ Irving Lorge, "Personality Traits by Fiat," *Journal of Educational Psychology*, 26 273-278, April, 1935.

¹⁸ Gordon W. Allport, *Personality: A Psychological Interpretation*, p. 245.

deal with the relation of an individual's traits to one another has been used to analyze preferences. Stephenson,¹⁹ for example, had students sort sixty colors into ten piles according to degree of liking. From the results he emerged with two values on which students differed, the preference for subdued colors and the preference for crude, vivid colors, two categories which might just as easily have been set up beforehand. Before we grasp too eagerly at factor-analysis for a life buoy, we should heed Burke's warning that the "statistical motive" may lack correspondence with any of the particular motives which functioned in the situation:

The explanations which a scientist would give for some vast migration, after statistically observing the behavior of millions, would be wholly different from the "reasons" which each individual would have assigned for his part in the migratory movement. One man will tell you that he went west to avoid his creditors, another that he had always intended to do so ever since reading certain adventure stories in his youth, another that he migrated because Aunt Mary died, etc. The "statistical motive" will contain a generalization foreign to all these particular motives. It may disclose some economic factor common to all cases. Or it may disclose that a certain "psychological type" of person moved on while a certain other "type" remained behind. Or it may offer some Spenglerian formula concerning the lure of the setting sun. But in one way or another, the new causal interpretation obtained statistically will have the *incongruous* qualities of a perspective, since it offers a *generic* motive distinct from the motives experienced by the members of the migration *as individuals*.²⁰

Since the difficulty of getting psychological trait-names is so troublesome, can we not set the whole problem aside by pointing out that in the first chapter of this volume we said that the task of measuring values is the task of finding out how much a value has become part of the self? If we choose to measure a value which has status in society, the scores individuals obtain for it will tell us in how many cases it has become a psychological value, a part of the self, and to what extent it has become so in each case. Certainly this is information that is important for educators to have and we should therefore not neglect, much less do away with, measurement in this area. On the other hand, if we do not discover the multitude of values which people do have, we shall not be very well off. We may learn how people do not behave, but we shall gain little information as to how they do behave.

There are really two issues involved in the problem of the

¹⁹ W. Stephenson, "Correlating Persons Instead of Tests," *Character and Personality*, 4:17-24, September, 1935.

²⁰ Kenneth Burke, *Permanence and Change*, pp. 279-280.

specificity-generality of conduct, and they bear differently on the task of naming values. The one problem is whether we respond to specifics or to generals, and the other is whether we act similarly from one time to the next or whether we are inconsistent in our choices, differing with each specific situation. In a sense, the latter is not a problem at all. Though I think it would be a mistake to assume complete personal consistency, since this would rule out conflicts within ourselves and the fact of conflict within the self is more apparent to most psychologists than the fact of consistency, nevertheless it must be emphasized that a stable hierarchy of values held to by any individual will necessarily make him choose *X* at one time and decline it at another, unless *X* is the top value of his hierarchy. Since values are not all in competition at the same time, that value will win out which is the highest ranking of all those involved in the choice situation. If by quantification of values we can ascertain a person's hierarchy, then our ability to predict his future behavior is good, even though that behavior may mean negative valuing of an object at one time and positive valuing of it at another.

An interesting illustration of this is to be found in Maller's²¹ study of the conflict between honesty and group loyalty. Elementary school children were given tasks which involved speed, and the situations were so arranged that they could cheat to get a higher score. On some occasions individual competition was introduced and on others group competition. Group cooperation was also measured separately, relating to the individual's choosing to have his work and score count for the group instead of for himself. Those who were most cooperative cheated as much when their scores were to count for the group as when their scores were to count for themselves, group prestige being evidently as high a value for them as personal prestige. Their mean deception score in working for themselves was 54.8, in working for the group 52.8. Those children who got average cooperation scores had a mean deception score of 56.1 when working for themselves, and one of 47.9 when working for the group. The group did not matter so much, so they refrained a little more from cheating. The least cooperative children had a mean deception score of 56.7 when working for themselves, but only a score of 38.1 when working for the group. What these children would do to gain prestige for

²¹ J. B. Maller, "The Measurement of Conflict Between Honesty and Group Loyalty," *Journal of Educational Psychology*, 23:187-191, March, 1932.

themselves, they would not as readily do to gain prestige for the group since the group's status was of much less importance to them than was their own individual status.

Our attention must now turn to the other half of our problem. How specific is the stimulus to which we respond? If we say that a person values beauty, are we making a statement that is necessarily psychologically unsound? Although it is always a specific stimulus which is responded to, nevertheless the response may be in terms of the general character of the stimulus. Thus young children who first discover the sensuous delight of musical rhythm and tone like almost any music; the adult who has a long history of musical appreciation behind him may like only the works of specific composers and possibly only the specific works of specific composers played in such and such a specific way. What we have here in value growth is the same as what the gestalt school describes with regard to growth of perception. In a new situation you start with the perception of a vague whole, and gradually the whole differentiates into its details. Just so with interests. You may start with a vague general interest which then becomes canalized in a more and more specific object. The kind of generality the interest can assume, and also the kind of specificity, will depend upon the environment in which the person is living.

Another way of putting this is to state that abstractions are in a way more simple than concrete actualities, since the latter integrate many details. The novice with regard to that stimulus grasps only one aspect of it, and this aspect can be found in other specific things. Such grasping of elements common to several specific events or things is what makes all of them alike to the novice, when to the initiated there is all the difference in the world between them. The latter will react differently to different ones of these specific events, possibly even being unwilling to call them all by the same class name. It would be a mistake, however, to claim that value growth is always a process of differentiation. The "whole" stimulus to which we first respond has no definitive size laid down for it. Very specific-to-the-concrete-stimulus valuation is as true of children as is their valuing of generalities. It may be that the only music that the two-year-old wants is the lullaby that her mother sings, and she may want it sung by her mother and by no one else.

The terms specific and general are not dichotomous. They can be said to form the polar points of a scale, except that this continuum is not as simple as a straight line. Logically, and according

to the dictionary, music falls farther along this continuum than does singing and therefore includes singing in it. But psychologically, this may not be the case. The items which Mary includes in the "whole," music, when she says, "I like music," may not only be different in number but also in kind from those which are found in Tom's "whole," though he also uses the same term. Psychologically, our values do not grow from the specific to the general, nor do they move from the general to the specific. We may take hold at any point, and the "whole" to which we respond may change by becoming both more inclusive and less inclusive at the same time, and also by taking on some different qualities.

Because general values are in the culture of the child and he early becomes familiar with their verbal symbols and must often respond in terms of the verbal symbols long before these have much concrete reference for him, he may in later life also respond differently to the verbal stereotype of his culture than he does to the concrete referents of that stereotype. A striking example of this is given by LaPiere,²² who traveled through many towns of the Middle West with a Chinese couple. When LaPiere wrote for accommodations, mentioning in his letter that a distinguished Chinese gentleman and his wife would be with him, he was refused. However, when the three began motoring through the country, hotels accepted them as they arrived. In all, 66 hotels, autocamps and tourist homes, and 184 restaurants accepted them as patrons. Consideration and service were better than usual. Only one place refused to accommodate them. Six months after all three had been at a hotel, LaPiere wrote each manager asking whether he would accept Chinese as guests. He received replies from 81 of the restaurants and 47 of the hotels and tourist camps. Ninety-two per cent of the restaurants and 47 per cent of the hotels refused. The remainder were uncertain, and said it would depend upon circumstances. There was only one favorable reply, and that was from a woman who said she had had a nice Chinese couple as guests the previous summer. What we have here is not a difference between a verbal and behavioral response since in both cases behavior—acceptance of Chinese as guests—was demanded. In one case the object was present only in the form of the verbal symbol of the class to which it belonged, in the other case a concrete particular of the class was present. Nor is this a difference between action undertaken privately and action under-

²² Richard T. LaPiere, "Attitudes vs. Actions," *Social Forces*, 13:230-237, December, 1934.

taken publicly, for in both cases the action was public. As Katz and Braly²³ point out, reaction to race X may be publicly averse to the race as a group represented by the racial label or the skin color, but be publicly different for individuals of the race.

In the verbal field this phenomenon has been observed by many investigators. Hartmann²⁴ found that farmers and workers who were interviewed were verbally least favorable to the terms socialist and communist when these were presented as party labels, but that they endorsed more items from the programs of these parties than from the programs of the other parties to the names of which they had been much more favorable. A similar result was found by Stagner,²⁵ who concludes that many conservatives are strongly opposed to fascism—as a certain kind of stereotype—but they are not opposed to the ideas and principles which make up a fascist program under a different name. However, there was not complete discrepancy between approval of the class name and approval of the particulars of that class. The average fascist score (obtained from the specific items) for those who checked strong disapproval for Nazi Germany was markedly lower than the average score of the combined adults who checked any of the other categories—strong approval, some approval, no opinion, some disapproval. This looks as if the two scales—the class scale and the specific scale—might be calibrated by discovering the score on one which corresponds to the score on the other. The assumption that the discrepancy between them is always in the same direction is, however, not warranted. Where one man votes favorably for policies bettering the condition of the Negro but treats individual Negroes abominably, another will vote for all kinds of discriminations against Negroes but will treat individual Negroes kindly and sympathetically.

That the discrepancies found between reaction to a class name and reaction to its particulars may be due in part to the particulars which have been used to represent the class name has already been mentioned. This factor will be particularly prominent with regard to those concepts which have little common significance through-

²³ Daniel Katz and Kenneth Braly, "Racial Stereotypes of One Hundred College Students," *Journal of Abnormal and Social Psychology*, 28:280-290, October-December, 1933.

²⁴ George W. Hartmann, "The Contradiction Between the Feeling-zone of Political Party Names and Public Response to Their Platforms," *Journal of Social Psychology*, 7:336-357, August, 1936.

²⁵ Ross Stagner, "Fascist Attitudes: Their Determining Conditions," *Journal of Social Psychology*, 7:438-454, November, 1936.

out the population. The fact that the classification used on a test is derived from the combined judgments of a few experts does not bring it into closer agreement with the classification of the person who takes the test. Hartmann and Hamm²⁶ acknowledged this when they found that two thirds of the teachers tested chose the label "individual differences" as the phase of educational psychology which interested them most, while the items which experts would classify under this heading stood lowest in average pleasure value. At the same time they asserted that the results might be attributable to the irrational love of a name.

That the words used in naming a policy do have an effect on the response of the individual to that policy was found by Menefee,²⁷ who presented to his subjects a list of statements which contained many similar opinions stated in two different forms, only one of which used stereotyped phrasing. For example, the words "open shop" were used in one statement; the phrase "the employer policy of opposing one hundred per cent unionization" was used in another. Here we have discrepancy due not to the different effects of a class name and of its particulars, but to different naming of the same thing. Neither is this a difficulty that will be encountered only on pencil and paper tests and in laboratory situations. With regard to the most important phases of our lives both individually and collectively, we commit ourselves by verbal responses to verbal questions. A national referendum on a major issue is a case in point. The verbal testing movement is not as far removed from behavior as many who decry it imply.

There is still another factor which may make for discrepancy between the feeling expressed for the "whole" and the feelings expressed for the parts combined into a total score for the whole. Fitzpatrick²⁸ reports that students who had elected to major in the field of biology were about as varied in their stated preferences for studying specific items representative of the whole field of science as were other students. The items in the field of biology did not receive a much higher percentage of preference by biology majors than by others.

Such a finding should not cause surprise. The valuation of a whole measured by choosing and actually engaging in it should not

²⁶ George W. Hartmann and Anson Mark Hamm, "Variations in Affective Tone of Different Areas of Educational Psychology," *Journal of Educational Psychology*, 25:115-135, February, 1934.

²⁷ Selden C. Menefee, "Stereotyped Phrases and Public Opinion," *American Journal of Sociology*, 43:614-622, January, 1938.

²⁸ Frederick L. Fitzpatrick, *Science Interests*, p. 59.

be expected to agree with a score representing the sum of the hedonic intensities displayed towards the various parts removed from the whole. A happy young wife is thrilled to keep house and spends all her time working at it, but ask her if she likes scrubbing pots or waxing floors and ask her these questions away from the home aura, and her responses do not ring with enthusiasm. A nurse may even be disgusted with some of the specific tasks she has to perform but she will not change her profession "for anything in the world." Things and activities are what they are and we not only must, but we do respond to them as complete units.

If we are accepting this gestalt view, then possibly it would be best to name our values by the "wholes" of the objective universe rather than by the values residing in them. So apples would be the value-name and not the refreshing taste of them, tennis the value-name and not the social aspects of the sport. This method of value-naming has much to recommend it. First of all, whatever aspect of a material object we value, it is the whole object we must buy and cherish and interact with. Secondly, naming by the tangible object or by the overt activity will be much easier for the observer. He will not have to make inferences as to what aspect of the object or activity is valued. In the third place, if we hold to the theory of the functional autonomy of values discussed in the early part of this book, we cannot deny that the material objects of the universe may, and the majority of them most probably will, become value-things, not merely things containing value. Furthermore, since any one object may embody many values for the same person, we get a value-score for a combination of values without having to figure out how that unique combination can get a score assigned to it derived from the behavior displayed towards the various single values of which it is composed, some of which may be negative and some positive, some strong and some weak. Lastly, if we measure only the embodied values, we may fail because of that very fact to predict correctly when a man will strive mightily after certain tangible goods. Through our "wiser" observer eyes we may know that certain objects do not embody the satisfactions the man is after and so we shall not assign them a high value-score for that man. He, however, may be strongly convinced that they do and so he strives after them. If he works hard to make a lot of money so as to gain prestige in the eyes of his wife, the existential fact that he is losing prestige thereby may not deter him.

Naming by the tangible object certainly has decided advantages, but it has the disadvantage of not taking care of those cases in

which strong fixation for any one object has not taken place. One object may carry many values, but the same value may be served by many objects. If Alice's dominant value is to be in friendly relationship with others, she may swim with them, play bridge, go to concerts, attend lectures, or help pull up garden weeds. She very consistently does whatever the situation demands to make for a pleasant social contact. It would be rather erroneous to assign value to any one of these activities for Alice, even though she engaged often in all of them. In such a case we must find what it is that psychologically unifies variety. Few persons, however, are extreme in either direction with regard to more than a small number of values. They will cherish certain tangible objects highly in preference to others that to an outsider appear as if they would serve the purpose just as well, but they will not do it to an extent that a miser cherishes gold. They will engage in all kinds of activities as means to a certain end, but there are some things they will not do. A good case in point is that of the girl who, asked about her recreational activities, said she did whatever her boy friend wanted to do. When asked how it was that she was at home that Saturday afternoon she replied, "Oh, Bill's gone fishing. I simply loathe the slimy things so I stayed home and had my hair shampooed." It turned out, after further questioning, that she did everything he wanted to do if she "didn't mind it." Means do take on the character of their ends, but they have certain end-values of their own as well. It seems thus to be necessary to measure, as values, the aspects of tangible things and also the tangible things themselves. Commonly, the means we use to accomplish our ends are not wholly of our choosing. We may find them so disagreeable that we only tentatively tolerate them because they are necessary. As soon as we find other more agreeable means to gain the same end, we drop the means we used at first.

From all this it follows that certain types of value-scales are particularly prone to errors of naming and classification.

1. If we quantify by the amount of time spent on the value, and the activity engaged in is given a class name according to a recognized classification, that classification may chalk up a great many value-hours even when there is only one activity of that classification which is being engaged in. Cattell²⁹ cites the case of a boy whose rated score on "science interest" did not agree with his science interest score obtained from attention tests of interest.

²⁹ Raymond B. Cattell, "The Measurement of Interest," *Character and Personality*, 4:163, December, 1935.

The boy was found to have an obsessional fascination for playing with spiders and no other science interests. The teacher who rated the boy's science interest rated according to time spent on any science items, not according to the scope of science interests.

2. If in verbal scales a number of hypothetical and varied situations are set up in each of which there is a necessary choice of 1 out of 4 (or 3, or 6, as the case may be) specific items, each item representing one of the four class values which are being compared with each other, then the person who is interested in a wide scope of activities of one class chalks up a high score for that value relative to the others. This allows for scope but not for time given to the interest. Quantification by scope is proper if it is indicated as the scale. Errors will occur when the actual scope of the class is so wide that it is impossible to have a sufficiently representative list of the particulars. In that case some subjects will have too high a score for the value; others too low a score. In making out the specific items one should have in mind the population to be measured by the test, and the kind of specifics that would be part of their lives.

3. If we name the specific items according to a class name given them by judges, then the given name may be neither the popularly understood meaning of the term, nor the dictionary definition to which reference could always be made in the test manual. It may be better at times not to use judges to name the items, but to define the category at the outset and to choose items in accordance with the definition.

4. Whenever a class name is not yet "jelled" in the culture (i.e., when it is not yet quite clear as to what specifics are being subsumed under that class name), then there is bound to be error, unless only those specifics are used upon which an agreement has been reached as to whether they do or do not belong in the category. These already agreed upon specifics may be the least consequential of that class.

5. If we name by criterion-group which this item differentiated from the other groups through the relatively high score the criterion-group received on it, we may be naming wrongly. The criterion-group may have in common, and to a degree higher than any of the other groups, another characteristic besides the one upon which that group was selected in the first place. When common sense items are used, criterion-groups may give them added validity. When items are chosen in a hit-or-miss fashion and they are expected to get their name solely on the basis of the criterion-

group which they differentiate, then it is impossible to tell how correctly they have been classified.

6. When 1 out of 4 specific items is to be chosen, each one of the alternatives exemplifying a different class of values, with only the class value getting the score, then the quantification may be in error because of the fact that although *A* as a whole may be preferred to *B* as a whole, every item in *A* is not preferred to any item in *B*. If there is an established hierarchy of the specifics under *A* ($A_1 A_2 A_3 A_4 A_5$) and a similar *B* hierarchy ($B_1 B_2 B_3 B_4 B_5$), then if choice is between A_4 and B_2 there is no rule to tell which will win out. It is therefore necessary to equate subitems, but this cannot be done accurately because of individual differences in the hierarchical order of the subitems of a class. However, knowledge of the standards of the population for whom the test is being devised will be of some help.

7. When activities are named "teleonomically," only repeated observation of the same person will correct naming-errors. Allport³⁰ believes that if several observers are used, the difficulty of teleonomic description will be overcome. While several observers are to be recommended in preference to one, it should not be taken for granted that mere agreement between independent recordings means valid teleonomic naming. It is pertinent here to cite the findings of Thomas, Loomis, and Arrington³¹ that when it was sought to find behaviors upon which the records of judges making simultaneous but independent controlled observation of the same child agreed, it was found that these behaviors as named were quite lacking in teleonomic meaning and that such meaning could not validly be inferred later from the written records. While teleonomic naming should be done on the spot and independently, the method used at the Harvard Psychological Clinic³² of arriving at a description or rating of the person during the course of a conference of the several observers after their independent observations had been made seems promising. To offset domination of one person's opinion, the several observers should have more or less the same status though not the same biases. It would be still better if they were acquainted with the subject but in different situations, and possessed a large amount of "critical

³⁰ Floyd H. Allport, "Teleonomic Description in the Study of Personality," *Character and Personality*, 5:202-214, December, 1936.

³¹ D. S. Thomas, A. M. Loomis, and R. E. Arrington, *Observational Studies of Social Behavior*

³² Henry A. Murray, *Explorations in Personality*, p. 265.

empathy.”³³ It is quite probable, however, that one of the main reasons why observers in controlled-observation experiments fail to agree when taking purpose into account is that the time period set for observation and for recording whether a particular type of behavior had occurred is so very small. Often each child is observed for not more than one or two minutes at a time, and these periods are subdivided into five-second periods. The teleonomic aspect of the behavior is easily lost when behavior is observed in such minute segments.

We have concluded this chapter with a discussion of techniques for getting good teleonomic description of behavior. According to our theory of motivation, naming by the value-object and naming by some quality of that object can both be included under teleonomic description. We are as opposed as Murray³⁴ to recording behavior in terms of mere “actones” without inference of the end situation striven after by the behavior. The purposeful quality of the act must always be looked for, otherwise the measurement would not be value-measurement, but it must not be forgotten that the “actone” may itself be the purpose. There seems to be no necessity for a general decision in favor of naming values specifically or by class name, by the surface character of the activity or object or by the embodied satisfaction. In some cases, one method will serve the purpose better; in some cases the other. Often we may wish to name the same events by more than one method.³⁵ As in location and quantification, the measurer’s purpose will be the best guide.

³³ *Ibid.*, p. 247.

³⁴ *Ibid.*, pp. 244–245.

³⁵ In studies of nursery school children, Murphy found that the child who was recorded as having done the most hitting was also the one who made the most friendly advances. (Lois Barclay Murphy, *Social Behavior and Child Personality*, Chapter VIII.) This was an occasion when the naming should have been done both in terms of the “actone” hitting, and of what the child expected to get by means of his aggression. Longer time-sampling periods were used, and it was seen how often this “actone” was employed on behalf of others or so that others would let him become part of their group. “Social contact” was a valued end for this child and “hitting” a very valuable means which he often employed. For the teacher both informations were necessary.

CHAPTER XV

COMPARISON OF SCALES AND QUANTIFICATION METHODS

Review of the Literature

WITH SO MANY METHODS of quantifying value data, especially verbal value data, and so many possible scales of value, a mass of data consisting of studies which have little or no bearing one upon the other may soon be built up. If each one of the different scales were validated by an accepted criterion-scale, then their lack of direct integration with one another would not matter. Since each would be valid, the one most useful in the situation would be selected for application. But the majority of existing scales have not been validated by anything more than the scale constructor's theoretical assumptions, or by a test of internal consistency, or by correlation one with another. The correlation of two scales does not *ipso facto* validate either one. Validation for one of them must be obtained from an outside criterion. But while a value-criterion is being searched for, it may be useful to compare various existing value-measuring techniques with one another. We can at least see whether they support or contradict one another, whether a simple technique gets the same results as an elaborate one, whether two different indices of value nevertheless give the same quantification of value so that if measurement has been made by the use of one, measurement need not be made by the use of the other. A number of such comparative investigations have been undertaken at various times. Many of them deal with different ways of assigning value-quantity to an object. They compare, for instance, scores obtained by counting only "first choice" to scores obtained by counting every indicated preference when more than one choice is permitted, or scores derived from the paired-comparison technique to scores derived from the rank-order technique, or scores derived from the expressed degree of liking for each of a set of stimuli to scores derived from ranking the same stimuli, and so on.

There have also been comparisons made between value-scores that the same individuals have obtained either on two different scales measuring the same values, or on the same scale with the testee's score quantified in different ways. It is these that we are especially interested in. Many such comparisons have already been referred to in previous chapters, particularly during the discussions of the connection between verbal and behavior value-indices, and of the relation between attitude towards a class and attitude towards a particular of that class. Additional comparative studies are described below.

ATTITUDE SCALE VERSUS SELF-RATING

Droba¹ applied the Thurstone-Droba Attitude-Toward-War Scale to a group of Chicago University students, and at the same time had the students rate themselves as to their degree of pacifism-militarism. He found that the self-rating scores correlated positively with the attitude-scale scores, but that there were some decided differences. The students had been classified into groups according to political party affiliation. The means of these groups were not in the same rank order on the two scales.

Another group of Chicago University students took the Smith-Thurstone Scale of Attitude-Toward-Prohibition, and also rated their own attitudes towards prohibition. The correlation between the scale scores and the self-rating scores was $+.80$.²

ATTITUDE SCALE VERSUS RATING BY OTHERS ON BASIS OF TESTEE'S FREE ACCOUNT OF HIS ATTITUDE

Stouffer³ applied the Smith-Thurstone Scale of Attitude-Toward-Prohibition to several hundred college students who also wrote a 1,000-word account of their feelings and experiences from childhood to the present time with regard to prohibition laws and the drinking of liquor. From these accounts, four judges rated the students on their attitude towards prohibition. These ratings showed a correlation of $+.81$ ($+.86$ when corrected for attenuation) with the scores on the attitude scales. It seems a little unfortunate that the term case history has been applied to Stouf-

¹ D. D. Droba, "Political Parties and War Attitudes," *Journal of Abnormal and Social Psychology*, 28:468-472, January-March, 1934.

² Samuel A. Stouffer, "Experimental Comparison of a Statistical and a Case History Technique of Attitude Research," *Publication of the American Sociological Society*, 25:154-156, May, 1931.

³ *Ibid.*

fer's technique, for actually the free account given by each student was not a case history but a present description of himself as he felt then and as he remembered himself to have felt in the past.

BEHAVIOR SCALE VERSUS RATING BY OTHERS

In connection with the Character Education Inquiry,⁴ children were put into a number of situations where they had the opportunity to cheat, steal, or show other forms of dishonesty. They were also rated by several of their teachers both on general honesty ("general 'uprightness,' his sense of duty and honor, his fairness in all things, etc.") and on "tendency to cheat on tests or examinations." The curious result was found that the teachers' ratings for general honesty correlated higher with the behavior scores for classroom honesty than did the ratings for classroom cheating, the former correlation being $+.316$, the latter $+.10$ when the ratings by the several teachers were combined. The correlations between the cheating-ratings by the different teachers and cheating-behavior scores ranged from $-.50$ to $+.63$, which shows that at least some teachers knew their pupils fairly well though others misjudged them completely, a discouraging fact when one realizes that the children were being rated on a classroom trait. If the rating had been done on the basis of recorded data rather than on general impression, the results might have been different.

AScription OF 'RIGHTNESS' TO THE ACTION VERSUS STATEMENT OF HYPOTHETICAL PERFORMANCE

Allport and Hanchett⁵ presented students with imaginary incidents which might be cause for war. The students were asked to check both what they thought right and proper for any citizen to do under the circumstances and what they themselves would do if they should find themselves in such circumstances. The behaviors from which selection was to be made had been assigned scale-values according to the Thurstone sorting technique. The means of the "performance" scores were lower in every case than the means of the what-it-is-proper-to-do scores, but the differences were not statistically significant.

⁴ Hugh Hartshorne and Mark A. May, *Studies in the Nature of Character, I. Studies in Deceit*, Book Two, pp. 106-118.

⁵ Floyd H. Allport and G. A. Hanchett, "The War Producing Behavior of Citizens: A Scale of Measurement with Preliminary Results in Imagined Situations," *Journal of Social Psychology*, 11:447-490, May, 1940.

ATTITUDE TOWARDS A CERTAIN TYPE OF ACTIVITY VERSUS ATTITUDE TOWARDS ENGAGING IN A PRESENT ONGOING ACTIVITY OF THAT TYPE

Gilliland and Katzoff⁶ devised a scale using the Thurstone technique for the measurement of attitudes towards American participation in the then raging European conflict (1940) and gave it to students at Northwestern University along with the Thurstone Attitude-Toward-War Scale. Since a high score on the Gilliland-Katzoff scale indicates a prowar attitude, and a high score on the Thurstone scale an antiwar attitude, a high negative correlation between the two scales would mean that both scales were measuring the same thing. On May 27, 1940, 206 students who took both scales showed a correlation of -0.16 , and on June 26, 1940, 62 students who took the test showed a correlation of -0.38 . Events of that month might have changed attitudes to make them more consistent in their idealistic and their specific verbal manifestations, or else the second group of students differed from the first, or else the difference was due to errors in the tests themselves. But even the higher correlation was low.

LIKING VERSUS ASCRIPTION

Wiebe⁷ asked students to express their liking for each of twenty-four songs played to them, by rating them on a 10-point scale. Since the songs were entirely new, the students were asked to predict their success on a 4-point scale. The correlation between liking and prediction of popularity was $+0.90$.

GENERALIZED ATTITUDE SCALE APPLIED TO ONE OBJECT OF THE CLASS FOR WHICH IT WAS DESIGNED VERSUS A SPECIFICALLY-CONSTRUCTED SCALE FOR THAT SAME VALUE-OBJECT

Remmers⁸ and his students have constructed a number of master scales. There is a scale which can be applied to measure any nationality, another for the measurement of any vocation, another for measuring interest in any book, another for measuring attitude towards any institution. When a person is given the generalized or master scale, the specific object in terms of which he is to check

⁶ A. R. Gilliland and E. T. Katzoff, "A Scale for the Measurement of Attitudes toward American Participation in the Present European Conflict," *Journal of Psychology*, 11:173-176, January, 1941.

⁷ G. D. Wiebe, "A Comparison of Various Rating Scales Used in Judging the Merits of Popular Songs," *Journal of Applied Psychology*, 23:18-22, 1939.

⁸ H. H. Remmers, *Studies in Attitudes*, Bulletin of Purdue University, Volume 35, No. 4, 1934; *Further Studies in Attitudes*, Series II, 1936, and Series III, 1938.

his attitudes is inserted in the blank at the top of the scale. When these blanks were properly filled in on the master scale measuring attitude-towards-any-institution and were given to students who also checked the Thurstone Attitude-Toward-Communism Scale, and to others who checked the Wang-Thurstone Attitude-Toward-Sunday-Observance Scale, correlations in both cases were high. Correlations with the Thurstone-Peterson Attitude-Toward-War Scale were low, but the two forms of the Thurstone-Peterson scale themselves showed zero correlation in this study by Remmers. In a later investigation, Dunlap and Kroll⁹ found that the Peterson-Thurstone Attitude-Toward-War Scale and the Remmers scale correlated only +.28. On the whole, these scales made up of affective statements which apply to any member of a class of objects differentiate well between criterion-groups so that they would seem to have some validity. The rating schemes and continuums proposed in the earlier part of our discussion on quantification can be classed as generalized scale-forms or master scales. There is a difference, however, in the suggested method of application and that used by Remmers and his students. The earlier discussion in this volume implied that the user of our continuum scales (that is, the recorder observing the behavior) would translate the general wording descriptive of each step of a scale into specific wording descriptive of that same step when referring to the particular value-object involved.

SCALE-STATEMENTS ARRANGED IN RANDOM ORDER OF SCALE-VALUE
VERSUS SCALE-STATEMENTS ARRANGED IN SERIAL ORDER OF SCALE-VALUE

Dunlap and Kroll¹⁰ were interested in determining whether the random order of the Thurstone scale items, and the serial order of the Remmers master scale items from greatest favor towards the value-object to greatest disfavor had any effect on the scores testees obtained on those scales. Both Thurstone and Remmers scales were administered in two forms, one with items arranged in random order and one with items in serial order. It was found that the effect of the order of the items was negligible.

DIFFERENTLY CONSTRUCTED SCALES MEASURING SIMILAR ATTITUDES

Since one of the values measured on the Allport-Vernon Study

⁹ Jack W. Dunlap and Abraham Kroll, "Observations on the Methodology in Attitude Scales," *Journal of Social Psychology*, 10 475-487, November 1939.

¹⁰ *Ibid.*

of Values is the *religious*, Pintner¹¹ compared scores for this value with scores obtained by the same students on the Thurstone-Chave Attitude-Toward-the-Church Scale. The result was a correlation of $-.78$ (a low score on the Thurstone scale indicates favorable attitude towards the church). This is particularly interesting in view of the fact that the Allport-Vernon scores being profile scores, that is, scores relative to those of other values measured simultaneously by the scale, are not supposed to be comparable to scores obtained for values measured singly.

SAME SCALE-STATEMENTS SCORED DIFFERENTLY

Horst¹² had the statements of his scale assigned scale-values by the Thurstone method of equal-appearing intervals, and then, after applying the scale, had each statement assigned a value according to the average total score of the testees who had checked it. He found the correlation to be $+.975$ between the Thurstone scoring and his method of "reciprocal averages."

Likert¹³ found the median correlation to be $+.88$ between Thurstone's method of scoring various of the Thurstone scales and Likert's method of having each scale-statement count equally with every other but deriving the total score for the testee from his endorsement of the statements on a 5-point scale of agreement-disagreement. Likert¹⁴ also found that several attitude scales which he had constructed when scored by different methods produced similar results. The testees were to respond to each statement with "Yes" for agreement, "?" for undecided, and "No" for disagreement. The same results were obtained when these statements were scored respectively 1, 3, 5, or 2, 3, 4, or $+1, 0, -1$, or when the "?" responses were disregarded and the "Yes" responses and "No" responses were scored in terms of typicality-atypicality of response by the group. For instance, when 60 per cent of the subjects responded to an item with "Yes," the "Yes" response received a score of -60 (because that item was an ex-

¹¹ Rudolph Pintner, "A Comparison of Interest, Abilities, and Attitudes," *Journal of Abnormal and Social Psychology*, 27:351-357, January-March, 1933.

¹² P. Horst, "Measuring Complex Attitudes," *Journal of Social Psychology*, 6:369-374, August, 1935.

¹³ Rensis Likert, Sidney Roslow, and Gardner Murphy, "A Simple and Reliable Method of Scoring the Thurstone Attitude Scales," *Journal of Social Psychology*, 5:223-238, May, 1934.

¹⁴ Rensis Likert, *A Technique for the Measurement of Attitudes*, Archives of Psychology, No. 140.

pression of negative attitude), the 25 per cent who checked the "No" response each scored +25, while the 15 per cent who responded with "?" received zero scores for that item. In still another comparison, Likert¹⁵ found that on those of his scales where the subject was to give a graded response from 1 to 5 in terms of agreement-disagreement, it did not matter whether the responses were simply summed to get the score or whether the ratings were first changed into sigma values derived from the number of persons who had given the item that degree of agreement. The correlations between the two techniques were +.99 and higher.

With a scale for measuring attitude-towards-feminism, Kirkpatrick¹⁶ found that scores obtained by substituting sigma values for the single point per accepted item correlated +.94 with the simple algebraic counting of the positive and negative items checked.

JUDGMENTS OF LIKING OR PLEASANTNESS COMPARED WITH VARIOUS POSSIBLE INDICES OF VALUE

There have been numerous attempts to define the connection between pleasantness and memory, interest and attention, interest and information, and so on. The literature has been most plentiful on the relation between statements of affective-value and memory,¹⁷ while tests of information have been constructed to serve as tests of interest rather than as measures of achievement.¹⁸ Since interest in an object means turning towards it, the connection between interest and attention is apparent. Since value-activity, both preparatory and consummatory, requires a knowledge of the value-object, interest and information must also have an inherent connection. Since knowledge and memory cannot be separated, interest, attention, memory, and information must all be integrated in some way. The manner of their relationship has been the subject of investigation for a long time, yet the results are still both ambiguous and confused. Such studies as have been

¹⁵ *Ibid.*

¹⁶ Clifford Kirkpatrick, "The Construction of a Belief-Pattern Scale for Measuring Attitude toward Feminism," *Journal of Social Psychology*, 7:421-437, November, 1936.

¹⁷ For one of the later reviews of the literature see Dorothy M. Barrett, *Memory in Relation to Hedonic Tone*, Archives of Psychology, No. 223.

¹⁸ Douglas Fryer discusses eight such tests in his book, *The Measurement of Interests*, Chap. VIII.

made are at present tangential to, rather than in the field of, this inquiry into value-measures, since there is no way of determining whether memory (etc.) can be used as a measure of value until a valid value-criterion has been established. The relation between pleasantness-unpleasantness and memory is the secondary problem, the primary one being the relation of statements of pleasantness-unpleasantness to valuing. Nevertheless, it is interesting that in all the confusion, and in spite of the inconsequential stimuli used, one generalization that is receiving greatest confirmation is that people remember best those things which have a strong affective tone, whether pleasant or unpleasant. Though this may be discouraging to anyone who wishes to find out what a person values by ascertaining what he remembers, since memory is seen not to differentiate between positive and negative values though it does have a different relationship to neutral events, it is encouraging to our own inquiry because it is the type of finding we should logically expect from our definition of positive and negative value, both of which concern themselves with the value-object though in different ways. As for information tests to measure interest-values, it may be that no such test can ever be constructed that can be used for a group of individuals because of the many complicating factors involved. However, it is not so difficult to take account of these factors when dealing with a single individual. The information the individual possesses might prove valuable as a supplement to the data obtained from other interest-measures and to substantiate or modify the estimate formed on the basis of the latter.

Can any definite conclusions be drawn from the comparative studies reviewed here? Obviously the serviceability of the findings depends largely upon the number of subjects in the given experiment and the universality of the obtaining conditions. To experiment with large groups under similar conditions is not the solution, since the conditions, as fixed, will probably not be those most commonly found. It may be more fruitful, therefore, to work with small groups under differing conditions except for the variables which are the subject of the investigation. Should a generalization hold through a multiplicity of such experiments, there would be a greater weight of evidence for its universality. In virtue of this, the writer considered it worth while to add to the data in this area by herself undertaking some experimental exploration. This would at the same time allow her to put the accent on the comparison of the values of an individual in one situation

with himself in another situation, rather than going by conclusions drawn from experiments embodying the more common practice of comparing the average (or other statistic) for the group in one situation with the average for the group in another situation. The several studies which follow were attempts to get the beginnings of answers to questions which arose as the inquiry proceeded.

Experimental Work

CONTROLLED VERSUS FREE RESPONSE

Practically all verbal interest and value tests present various alternatives to the subject and ask him to choose one or more of them or to rank them in the order of his choice. In life, many situations do occur where one is presented with alternatives or where one comes upon alternatives. This type of behavioral situation resembles the controlled-response check list in testing. Much of the time, however, some or all of the alternatives in the choice situation are brought into the picture by the chooser. In one of the proposed scales a class of persons was differentiated who would accept a value to enjoy if it was presented to them, but who would not conjure it up and go after it when it was not in their immediate environment. It seemed important to get some empirical situation where one could observe whether and how people did differ in what they selected when the alternatives were before them, and what they selected when the choice field was an open one and they could themselves assemble, or even create, the alternatives. Since the experimenter did not know of any way of setting up a free behavioral choice situation, it was decided that only the verbal area should be used, but that the results should be examined to see whether conclusions could also be drawn with regard to behavior in the two types of choice situations. The method selected was to compare the free responses to "wish" questions with the checked responses to the same questions.

Collecting the free-response data. A set of thirteen wish questions suitable for children of the upper elementary school was framed. It was thought necessary to have many questions so as to bring out a variety of facets of the children's likes and desires. The aspects of the child's personality brought out by one question might not be the same as that brought out by a different question. The results proved this to be the case. The questions were presented in a booklet, one question to a page. The directions and the list of questions follow.

DIRECTIONS

We want to find out what children like and what they do not like, and so you are being asked a number of questions. Write below each question just what you feel is the true answer for you.

You don't have to make sentences. Try to put your answers in the form of a list. For example, if you were asked the question, "Name the three things you like to eat most," your answer might be put like this:

1. ice cream
2. candy with nuts in it
3. fresh fruit, especially juicy fruit

When you finish one question, go right on to the next.

Do not stop long over any one question.

You may want to write the same answer to more than one question. You may do that if that is how you feel.

QUESTIONS

1. Write the three things you would like most to be or do when you grow up.
2. Of the things you can now do, which three please you the most?
3. If you came home one day to find that a fire had broken out in your house while no one was home and that a neighbor had called the fire department, list the three things that you would tell the firemen to save first in the order that you want them saved; that is, tell the firemen what you want taken out of the house first, what next, and what third. Remember that at any moment the fire may get so bad that nothing more on your list can be saved.
4. What are your three biggest wishes? Number the thing you wish for most 1, number the second biggest wish 2, and the third biggest 3.
5. If you had \$50 what would you do with it?
6. If you were able to change things in the world from the way they are at present, tell about the three things you would change first and how you would change them.
7. If you had 50 cents what would you do with it?
8. What are the three things you HATE the most? Put the one you hate the most first, the one you hate the second-most second, and the one you hate the third-most third.
9. If you had a million dollars what would you do with it?
10. What sorts of things would you like inventors to invent? Mention the three you would like the most.
11. Name the three things you believe are the most necessary to make you happy or to keep you happy.
12. If you could be born over again what would you wish to be like?
13. Where would you like to live? Tell why you would choose such a place. You may describe any kind of place and tell anything you want about it. It does not have to be a real place you know about.

The population tested. The group chosen consisted of thirty-five boys and girls in the sixth grade of a small Catholic parochial school known for its progressive methods and very popular with

the majority of the children. This particular school and this particular class were selected because the writer had established rapport with the children about six months previously when she carried out an experiment which brought her into contact with them daily for two weeks.

The administration of the test. It will be noticed that only certain questions asked the children to put their responses in rank order. This was done so as not to force the children into too fine a ranking on all the items. However, during the administration of the test, while the directions were being explained, the children asked whether the first thing they put down should be the one they liked most. Since the mind-set of the majority seemed definitely to be in the direction of a rank order listing, they were told to list what they wanted most first, and then to list the next two.

No time limit was set. The children proceeded from question to question at their own pace. If they could think of nothing they were permitted to leave the page blank. Question 10 had the largest number of omissions, only twenty-eight children answering it. The average number of children answering a question was 33.2. Responses that were impossible to make out were counted as omissions.

Collecting the check list data. The check lists were prepared from the free responses. Every question was treated separately. Only the first response was used in those cases where three were asked for. A list was made of every different response given by the pupils. Where items were almost identical, they were examined carefully to see whether to the child they might be different items. If there seemed to be any chance of their being different, both were included. If similar but not identical items had been changed to common phraseology, it would have been hard to tell whether the child who checked a different response from the one he had written first during the free-response test now "wished" differently or whether he did not find his original item on the list.¹⁹ If the child changed only to a similarly worded item, account could be taken of it in the analysis of the data.

The number of items per question varied. They were arranged in alphabetic order under a question as similarly worded as pos-

¹⁹ Fitzpatrick reports in a study of science interests that many students were "blissfully unaware of many interrelated meanings" and that only half those who stated they were interested in *breathing* also indicated interest in *respiration*. Similarly for *automobiles* and *motor cars*, *movies* and *motion pictures*. (Frederick L. Fitzpatrick, *Science Interests*, p. 42.)

sible to the corresponding one on the free-response list. The lists were presented in booklet form in the reverse order from that of the questions on the original test. The time between the giving of the free-response test and the check-list test was two weeks. The children were not told where the check-list items had come from. The blackboard illustration of the procedure showed a list of food items. This was checked differently for different children. It was emphasized that there were no right or wrong answers, only what they preferred.

Analysis of data. Comparisons of the data obtained by the free-response method and by the check-list method were made so as to answer the following questions:

- 1 (a). What agreement was there between the specific items listed²⁰ and the specific items double-checked?
- (b). What agreement was there between the specific items listed and the specific items checked or double-checked?
- 2 (a). What agreement was there between specific items listed and specific items double-checked, if we count as one items which were worded
- (b). What agreement was there between specific items listed and the differently but had the same meaning?
- specific items checked or double-checked, if we count as one items which were worded differently but had the same meaning?
- 3 (a). When the items are classified under different categories, do the category scores on the free-response questionnaire agree with the category scores on the check list, counting only double-checks?
- (b). When the items are classified under different categories, do the category scores on the free-response questionnaire agree with the category scores on the check list, counting all checks?
4. Do the changes from the free-response list to the check list move in the general favor of certain categories?
5. How much more alike do the children appear on the check list than they do on the free-response?

Agreement between specific items listed and specific items checked, counting only identical items as being in agreement. The first listed response was compared with the three responses that had been checked by the pupil for that question. If his listed response was double-checked on the second test, the pupil received credit on the *double-check* agreement score; if his listed response was either double-checked or checked once, the pupil received credit in the *check* agreement score. The double-check agreement score indicates how often first choices on the free-response questionnaire and on the check-list questionnaire were alike. The check score indicates how often first choices on the free-response

²⁰ *Items listed* means the first response on the free-response questionnaire

questionnaire were one of the first three choices on the check-list questionnaire. For this analysis, items were counted alike only if they were identical. This would tend to minimize the agreement between the questionnaires. Results are given below.

	Number	Per Cent of Total (432 cases)
Double-check agreement cases	69	16.0
Check agreement cases	179	41.4

Agreement scores were also obtained for every child for the entire 13 questions. The highest obtainable score was thus 13, the lowest obtainable score 0.

	Double-Check	Check
Highest agreement score obtained by a child	7	9
Lowest agreement score obtained by a child	0	1
Mean agreement score	2.08	5.4

Agreement between specific items listed and specific items checked, counting similar items as being in agreement. The method of comparison used here was similar to the previous one, except that items were considered to be in agreement on the two questionnaires if the meanings were closely alike. For example, *to lead a holy life* was considered as agreeing with *to be a saint*; *to save my dog* was considered as agreeing with *to save any pets we had*. This method of scoring would tend to maximize the agreement between the questionnaires. Results are given below for the total number of items and for the individual children.

	Number	Per Cent of Total (432 cases)
Double-check agreement cases	90	20.8
Check agreement cases	222	51.4

	Double-Check	Check
Highest agreement score obtained by a child	8	10
Lowest agreement score obtained by a child	1	2
Mean agreement score	2.7	6.7

Agreement between the two forms when items were classified into categories. If two forms of a check-list questionnaire are presented to the same subjects, agreement can be noted within a class category as well as between matched specific items. The items obtained from the free-response questionnaire did not lend themselves to division into categories having an equal number of items. In fact, some of the categories had only one or two subitems on several of the questions. In such a case it would mean that there

could be little movement within a category for any one child, and the agreement scores obtained by comparing the specific items would have little chance to rise. It was decided, therefore, to assign scores to the categories (rather than category scores to the children) by counting the number of subitems of that category that had been listed or that had been checked. For every category three scores were thus obtained—a free-response score, a double-check score, and a check score (for which both single and double-checked items were counted). The popularity of the categories on the two questionnaires could then be compared.

Classification of items. Classifying the items into categories presented difficulties. The items were surveyed and possible categories set up. Each item was then scrutinized to see whether it could fit discretely into one of the categories. It was found that no classification could be made that would consist of several discrete categories and that would include all the items. It was therefore decided to classify into such categories as seemed to fit the data and to allow any one item to be included in several of the categories. Where categories were considered to be contrasting, no overlap of items was allowed between them. The following categories were finally selected. Where categories are contrasting and discrete, or merely discrete, they are bracketed.

Pets	}	Housing
Egocentric		The open country
Sociocentric		Travel
Religion		Ireland
Peace		Improved machines of all kinds
Mother		Fanciful
Family (including mother items)		Vocation
Friends		Sports and play
Charity (give to the poor)		Art, music, literature
		Health
		Personal characteristics
Material things	}	Status quo
Money (have it, save it)		
Foods (wanted and disliked)		

Definition of the categories. The categories were defined as follows:

Pets. Every item referring to pets was included in this category whether it was "to have a new pet of one's own," "to save the family pet," or "to get a pet for someone else."

Egocentric. This term is used much as Piaget uses it. It does not refer to selfish in the moral sense of that term. Where the thought centered narrowly around the child himself, where there was no "us" or "them" quality in the response, then the item was classed as egocentric. The egocentric items were kept discrete from Pets, Sociocentric, Religion, and Peace items. Pets, Religion, and Peace items were all classified under those categories and none appeared under Egocentric or Sociocentric. Doubt as to classification could only come then as between Egocentric and Sociocentric. Most of the difficulties were avoided by further excluding from both categories all items under the first question which asked what the child would like to be when he grew up, and all items but one from the tenth question which asked what the child would like inventors to invent. The response item to the tenth question which was retained was the one desiring inventors to invent more jobs so that everyone could have a job. This was classed under Sociocentric. Items from the thirteenth question were also not counted under either of the two categories if a place name or description of a place was all that was mentioned. If along with the place were mentioned certain advantages for the child himself, the item was classed as Egocentric—for example, "In a house that has banisters down which I can slide."

Sociocentric. Items that were excluded from this category have already been mentioned. Items that were included contained reference to some other person in such a way that it was seen that the other person was not thought of as merely an adjunct to the self. "To have a brother" was, therefore, classed as Egocentric. Items classified as Sociocentric were those giving something to someone else, buying something for someone else, helping someone else in his work, thinking of the safety of another or of another's possessions, bettering social and economic conditions.

Religion. Any items referring to becoming a priest or a nun, to religious objects, worship, service to God, the church, saints, heaven, hell, sin, were easily classified under this category. Difficulty arose with three items which used the words "good" and "bad." Some of the children who had listed or checked these items were questioned as to what they meant. "Just have good people on earth" turned out to be a Religion item, explained in terms of "like heaven, everybody going to church," while "that everyone in the world were good" turned out to be a Sociocentric item, explained in terms of "they wouldn't do things that they'd have to go to jail, they'd help each other." "Bad people" as a hate response

turned out to be Religion, Egocentric, and Sociocentric. It had been listed by only one person, was not double-checked at all, but was checked by ten children. It was not counted in any of the categories.

Peace. Any item expressing a desire to do away with war or to have peace.

Mother. Any item referring to mother—giving her something, making her happier, wanting her, making her work easier, saving her personal possessions.

Family. All “mother” items were also included under family, which took in besides: brothers, sisters, father, grandmother, and “the family.”

Friends. Any items which mentioned friends—having friends, treating friends, buying friend a present, disliking to hear that a friend had died.

Charity. Only items which gave things, money, or food, to the poor were included. If the wish was expressed that the world be changed so that everyone have enough, this was not classified as charity.

Material possessions. Food and money were kept discrete from material possessions which included clothes, furniture, jewelry, bicycles, car, presents (that were to be bought).

Money. If nothing was to be done with money except to keep it or save it, or if there was a wish for money without any further purpose stated, then the items were classified under Money only.

Foods. Items expressing a liking or disliking of foods or of eating, and items referring to buying food for self or some other person.

Housing. Items expressing a wish for a better home of one's own, for better homes for everyone, for tearing down of “filthy” houses and building new ones.

The open country. Items expressing a desire to live “in the country” or to have everyone live in the country.

Travel. Items expressing a desire “to go to” a distant place. Answers to “where would you like to live” were not included.

Ireland. Items mentioning Ireland as a desired place to go to or to live in.

Improved machines. All items except one came as replies to the tenth question which asked about wanted inventions—items such as faster planes, moving streets, rocket ships.

Fanciful. Questions 6, 10, and 12 brought wishes for things like being able by pushing a gadget to step into the eighteenth century,

a purse that would never empty, machinery that would put knowledge into your head.

Vocation. Most items of this category came from Question 1.

Sports and play. Items expressing a liking of play, skating, swimming, etc., or a desire to be a football player.

Art, music, literature. Items connected with such things as singing, painting, sculpture, telling fairy tales.

TABLE I
CATEGORY SCORES

No. of Questions on Which Categories Appeared	No. of Items Classi- fied in the Category	Category	Scores				
			Free Response	Double-Check	Any Check	Possible Double-Check	Per Cent Double Checked Out of Possible Double-Check
5	9	Pets	18	8	26	167	4.8
11	102	Egocentric	173	40	210	370	10.8
10	51	Sociocentric	78	99	334	331	29.9
12	39	Religion	57	218	457	404	54.0
4	6	Peace	10	26	56	125	20.8
6	14	Mother	29	42	121	204	20.6
6	22	Family (including Mother items)	41	58	165	204	28.4
4	6	Friends	8	1	5	136	0.7
4	9	Charity (<i>give to poor</i>)	15	19	80	134	14.2
5	21	Material possessions	29	11	72	171	6.4
6	9	Money (have it, save it)	39	3	25	204	1.5
5	14	Foods (wanted and not wanted)	25	7	27	167	4.2
		Discrete from each other					
5	12	Housing	13	6	33	164	3.7
6	7	The open country	20	2	9	192	1.0
4	6	Travel	6	10	32	135	7.4
3	3	Ireland	4	8	31	101	7.9
2	14	Improved machines of all kinds	15	6	25	59	10.2
3	15	Fanciful	15	8	36	92	8.7
4	22	Vocation	35	32	94	133	24.1
6	14	Sports and play	22	8	38	197	4.1
3	8	Art, music, literature	11	6	26	102	5.9
3	5	Health	6	1	8	99	1.0
4	12	Personal characteristics (exclusive of religious)	12	5	34	135	3.7
2	2	Status quo	15	4	16	64	6.2

Health. Items expressing a wish for good health or a hatred of pain or illness.

Personal characteristics. Some items expressed a desire for the child himself to become different, not merely to have something. Religion items and vocational items were excluded. Items included such wishes as to be smart, to be pretty, to be a better boy, to live a happy and contented life.

Status quo. This category consists only of two items: "Change nothing," given in answer to Questions 6, and "Just what I am now," given in answer to Question 12.

Analysis of Table I shows that there were some decided shifts from what was listed as first choice on the free-response questionnaire to what was checked as first, or among the first three choices, on the controlled-response questionnaire. These were not random changes from one item to another. The shifts were in the same few directions for all the children. An item that became more popular for the group as a whole was almost never dropped by the child who had originally listed it. This meant that the range of items that were checked was smaller than the range of items listed. The amount of decrease in range is indicated in Table II.

TABLE II
NUMBER OF DIFFERENT ITEMS GIVEN AS RESPONSES
TO EACH QUESTION

Question	Number of Children	Free Responses	Double-Checks	Checks Including Double-Checks	Double-Checked by No One	Checked by No One
1	34	21	14	20	7	1
2	35	22	11	20	11	2
3	35	22	12	17	10	5
4	33	27	13	19	14	8
5	35	15	6	14	9	1
6	31	25	9	13	16	12
7	35	17	8	13	9	4
8	33	19	5	15	14	4
9	33	23	10	14	13	9
10	28	27	13	21	14	6
11	33	26	11	16	15	10
12	33	18	8	14	10	4
13	34	18	8	14	10	4
Total		280	128	210	152	70

Some decrease in range was expected since no new items were added to the check list that had not already appeared on the free-response questionnaire. The children thus appear much more

alike on the second test than they do on the first. The direction of the changes showed certain group norms at work. The child was "reached" by the items put on the questionnaire. These now entered his field along with the one he had himself thought of and put down as his first choice. Whether similar items were in his mind at all when he set down his free responses it is impossible to tell. How considered his free responses were one can also not know. The child may have put down the first thing that came to his mind; he may have thought about and selected from among several ideas before writing one down. On the check list there was no tendency to check the items that first caught the eye, even though the lists were long. The Religion items appeared in all positions on the lists, since they began with different letters of the alphabet. Where on one question there were two Religion items at some distance from one another, the first one did not necessarily get the larger number of checks. Nor did the children check two items that were practically alike. In only two cases were the "Cross" and the "Crucifix" both checked by the same children. "Serving God" was evidently a different item from "Going to church," but "Going to church" and "Going to mass" were not both checked. With "Give a lot to the poor," "Give some to the poor," and "Give half to the poor" all appearing under one question, only one child checked more than one of these items.

How much shifting was done towards any one category from another depended partly on how many questions there were in which that category appeared. To discover how often it was possible to double-check a certain category, one may find out on which questions items belonging to that category occurred, and then add up the number of children who gave responses to these questions. The number of double-checks the category actually scored can then be turned into a percentage of the possible double-checks. These percentages are listed in the last column of Table I.

To get the full meaning of these percentage scores, one should keep in mind the number of questions in which items of that category appeared as well as the number of items in that category. The more items of any one category that appeared on a question, the more chance there was of having that category pile up a high score on that question and the fewer the items the smaller the chance. The Vocation category got almost all of its vote from Question 1, which contained 18 vocation items out of a total of 21 items on that question. Now if we compare the first five categories which were kept discrete from each other, we notice that

the Egocentric, the Sociocentric, and the Religion categories appeared on most of the questions, but where there were 102 items for the Egocentric category, there were only 51 items for the Sociocentric category and 39 items for the Religion category. However, the percentage of possible checkers who actually did double-check was greatest for the Religion and smallest for the Egocentric category. The Peace category had a relatively large proportion of double-checks compared to its small number of items. Although the Sociocentric category was double-checked more often than it had been listed as a free response, it lost out many times when it came into competition with Religion.

To get the full significance of the difference between the number of times a category had an item listed for it as the free response of the individual, and the number of times those same individuals double-checked, as indicating most preferred, items belonging to that category, one can compare the score in the free-response column with percentage scores in the last column. Both these columns indicate how often the children availed themselves of the opportunity of choosing within the respective categories. Among the free responses, Egocentric items were by far in the majority, Sociocentric items came next in number, followed by Religion, Pets, and Peace items. On the check list, Religion items were double-checked 54 per cent of the times it was possible to double-check them, Sociocentric items 29.9 per cent of the times, Peace items 20.8 per cent of the times, Egocentric items only 10.8 per cent of the times, and Pets 4.8 per cent of the times.

An analysis of the check scores shows shifts in the same directions as were displayed by the double-check scores. One might argue that if an item lost out as a first choice, but found a place among the first three choices, then the shift from one questionnaire to the other was of a minor nature. The interpretation of the difference between the check score and the free-response score for a category must take account of the fact that if there were several items on the same question all belonging to one category, then a single child could get a check score of 3 for that category on that question. However, if there were only one item of the category on the question, the child could get no more than a score of 1 for that category. There is also the fact that if items were very much alike, the children did not check more than one of them. More of the Sociocentric items were of this kind than the Egocentric items. On the three money questions, for instance, "Mother" was given all of the money, or some of the money, or she was bought a pres-

ent. There is thus no formula by which we can figure out the highest check score possible for any category. A comparison of the scores as they stand in Table I will, however, give a fairly good indication of how well the respective categories fared in being chosen at all, whether for first, second, or third place.

In spite of its huge double-check score, and with only thirty-nine items on the questionnaire, Religion adds on 239 single checks. Sociocentric, with more room to expand, gets an additional 235 single checks, while Egocentric gains 170 votes through the single checks. The Egocentric check score is higher than the Egocentric free-response score, but the percentage of increase is exceedingly small considering the possibility of increase. Friends, Money, and The Open Country are the only categories having even lower check scores than their free-response scores. Religion is the only category having more checks than possible double-checks.

Since the difference between the check scores and the free-response scores might have been less if all the free-response items had been used, an examination was made of the listed replies to those questions asking for three items. However, the proportion of Religion items among the second and third free choices turned out to be smaller than that among the first choices.

Conclusions. The results show that whether analyzed by specific items or by categories, the wishes obtained by the free-response method varied from those obtained by the controlled-response method. They further show that with the particular children tested, change was in the direction of the established value norms of the institution in which they were given the test. The free responses were much more childlike, much more in line with what one would expect of public school children of that age. Where the "free" hates were for codliver oil, castor oil, and spinach, the "controlled" hates were for sin and the devil. A survey of the "controlled" wishes by a person ignorant of which group had made them would inform him of the most important values set for these children by their elders. With Ireland getting as many as 31 checks, he would even know their national origin.

Which of the two methods gave the more valid indication of the children's values if we keep to a behavioral definition of value? That the responses on the check list were not mere verbal conformities would be vouched for by anyone who has seen how eagerly these children go to their church school and to church services. That if they found 50 cents they would most likely spend it on candy or ice cream is not to be denied either, especially if

there were no adults in the picture. However, should a parent or respected neighbor suggest that they save it to put in the special church fund on Sunday, many of the children would no doubt willingly do so. The giving of money to the poor and to members of one's family, especially to the mother, were popular free responses. From the manner in which the experiment was set up, the free responses necessarily indicated every single value shown by the check list, but indicated them to different degrees. Not all the adult standards gained, however. Most of the children came from poor families that urge them to save their pennies. This social force was stronger in the free-response situation than in the controlled-response. The suggestions on the check list as to what they might do with their money besides saving it proved much more attractive, and the Money item decreased its score from 39 to 3.

If we try to answer the question of validity not in terms of which type of questionnaire will agree better with behavior, but whether each type of questionnaire will best agree with behavior in the kind of situation it most resembles, can we make a conclusive reply? From this evidence it seems logical to accept such a statement as a reasonable hypothesis with one major caution. If the person can step out of the frame of reference of the given alternatives should he so desire, he may never behave in accordance with the way he has checked the list. Book lists are very often given to children to check for interest and greatest interest. If "funnies" are not on the list, a child may never take home from the library any of the books he has checked, not even those checked as of greatest interest. If, however, his class has a library period and the books on the list are in the library, which is at the same time bare of "funnies," then his reading behavior and his checked choices may be very highly correlated. This is just another one of the many variables which influence value-behavior and which make it difficult to measure values.

COMPARISON OF VALUE-INDICES

When it was proposed in earlier chapters that values could be measured by various indices, it was not also presupposed that these indices, when properly used, would bring results in agreement with each other. In the same way that size is measured by different scales, each of them valid, and the relative weight of an object need not agree with its relative length, so the relative score of a value measured on one scale need not agree with the relative score of the same value measured on another scale. It might prove use-

- N.B.* You will not be expected to give this time exactly but make it fairly accurate and let it add up to total time spent on paper. If you spend about the same time on different sections of paper every day, just make the detailed listing once and refer back to this page number on future days.
5. Same applies for magazines as for newspapers.
 6. Make all your recordings short but as full of information as possible.
 7. Always tell whether you were alone or with others and specify the others as—1 woman friend, 2 women friends, 1 man friend, sister or sisters, brother, family, etc., group of men and women friends.
 8. If you put any money in the bank during these two weeks, record it.
 9. If all you did was talk to another person, record it that way, and if possible give nature of discussion,
 e.g., 8:00–10:00 P.M. Talking to friend at her home—
 babies, health, school, international news, last
 books read, just “gossip,” i.e., small talk.

The first page of the diary notebook asked for information with regard to the subject's place of residence, age-group, sex, marital status, occupation, annual income, expenditures for rent, board and insurance per week even if paid on a monthly or yearly basis, and a list of other payments made regularly by month or by year. Each diary page was divided into three columns, in the first of which subjects were to record the time period, in the second, the activity, and in the third, the amount of money spent, if any. The diaries were not to be signed.

The population tested. The subjects chosen were all women and all were known to the writer or her family. They were further selected only on the basis of willingness to undertake the two weeks' task of recording. The twenty-five who returned a complete consecutive fourteen-day diary consisted of ten elementary school teachers, all single, whose average salary was about \$1300, and whose average age was over thirty; eleven bookkeepers, all single, whose salary range was wider than that of the teachers, running from \$624 to \$1980, and the majority of whom were between twenty and thirty years of age; and four housewives who were between the ages of twenty and thirty, had no children, and whose husbands earned salaries ranging from \$2,000 to \$5,000. All but one of the subjects lived in the same city. Familiarity with the group of subjects, their home backgrounds, the opportunities and lack of opportunities that their environment afforded them, enabled the writer to visualize the behavior which was itemized in the diaries. Though the diaries were not signed, it was very easy to identify them. Though all the diaries used in the analysis were kept regularly, some subjects recorded events much more minutely

than others. Several subjects added a personal evaluation of their activities during this period at the end of their diaries.

Analysis of the records. One of the striking features of the records was the small proportion of the two weeks' salary that was spent during that two weeks other than on daily items such as carfare, newspaper, cigarettes, lunch. Even these expenditures did not occur on all the records since some of the subjects walked to work and almost everywhere else they went, came home for lunch, and read the family newspaper. It was obvious that there were going to be activities on which time was spent but on which no money seemed to be spent.

Time located well the daily routines which formed so large a part of the day—dressing, care of personal appearance, job, eating, sleeping, reading the newspaper, talking to the family, listening to the radio, care of personal things. Time located "friends" as being a very important part of the life of each one of the subjects. Walking with friends and visiting friends or having friends come to visit accounted for a great deal of time. Leisure activities engaged in aside from reading were almost always in the company of a friend or group of friends. Shopping was done with friends either for self or for the friend.

The problem was to find out, first, whether the Money Scale located the same values as the Time Scale, and second, whether when the same value was located by both scales it received the same relative score or rank score on both. Because of the nature of the records, no fine computations were made. The data will therefore be presented in the form of results, with the method of analysis becoming apparent through the manner in which the results are formulated.

1. *Did the same values appear on both scales?*

a. Whenever there was an unusual chance for a certain value to function, and it was such that both time and money could be expended on it, or to get to it, then both time and money were expended. The most prominent novel event was the visit of King George and Queen Elizabeth of England. Everyone of the subjects living in the town talked about the visit, stood in line to see the parades one or more times, read about it before and after the event took place. Money was spent to ride in a special observation car through the decorated streets where the parade would pass, or to pay for a taxi to take one to a good observation spot quickly, or to see motion pictures of the royal visit in that and other cities.

b. Those subjects who were known for having special interests showed these interests on both scales. N. D. was very devoted to a mother who was ill, and she was also very much interested in art. Time showed her spending long hours with her mother and also many hours sketching. Money showed her buying little gifts for her mother and paying for painting materials and for the use of a studio. A. R. was known for her interest in her sister's family. Time showed her talking over their problems with her nieces and nephew, taking them to places that would amuse them. Money showed her giving them money, buying things for them, paying for their entrance fees to the places where she took them. A. B. was interested in organized charities and other service associations. Time saw her campaigning for funds, Money saw her contributing funds. O. C. was interested in personal appearance and clothes. She spent a good deal of time shopping and at the beauty parlor. She spent a proportionately large amount of money on clothes and beauty care. The diaries of other subjects also contribute to the conclusion that when the interest is strong as compared with other members of the group, it will show on both scales. Some values, however, were exceptions to this rule.

c. A number of subjects showed a strong value on the Time Scale, as compared to the other subjects, but did not show this value on the Money Scale. When these instances were examined it was found that it was not the scales themselves which caused the difference, but the length of the period during which the scales were applied. The interest in music is the outstanding example. Some subjects listened to a great deal of good music on the radio but showed no money expenditures for music. Their environment offers few concerts during May, when most of the diaries were kept, and the fact that they themselves had paid for the radios that brought them the music did not show in the 14-day diary. Many of the subjects spent a certain time each day reading current literature, with no expenditure indicated for books. Practically all the subjects belong to book clubs having a yearly fee, and some pay for their books at the lending libraries on a monthly or yearly basis. A great deal of time was spent playing bridge both at one's own home and at friends'. Yet there was not a single expenditure for a deck of playing cards. Much time was spent on personal appearance, and this involves expenditures for cosmetics, an item which showed on some diaries but not on others. It is plain that within one limited time period the money expenditures for a value and its time expenditure need not necessarily coincide.

d. For some subjects certain values showed on the Time Scale but not on the Money Scale because the sum of money classified as Room and Board actually included payment for other goods as well, which were provided by the head of the household who received this lump sum. An interest in the news, shown by daily reading of the newspaper and current magazines and also by listening to radio news and programs, often did not even show a 3-cent expenditure for the daily newspaper, since in that town it is customary to read the paper at home and not on the street car. The subject who spent many hours walking the dog may not have spent any money on the dog directly but was quite in favor of the fact that some of her board and room money went for his care.

e. Some values are of the kind that take time but no money. Walking is such a value, and much time was spent on it. No special costume or equipment is necessary, and no money needs to be spent to get to a place where the activity can be engaged in. Being with friends can be such a value, but it did not turn out so with these subjects. Friends were entertained at home, which necessitates a money expenditure, friends were also treated to tea or to lunch in restaurants. The customs of the town are such that hospitality is a reciprocal characteristic. With these particular subjects, friends were given not only a lot of time but also a proportionately large amount of money.

f. Some activities take time as well as money, but you engage in them while you are engaging in something else and the time expenditure does not get recorded. Subjects who showed daily expenditures for cigarettes indicated no time expenditure for smoking them. Subjects who bought candy regularly also did not indicate any time for eating of candy.

g. Some time is expended for the purpose of earning money and does not itself use up money except as money is spent for getting to and from the job. The job is therefore a different kind of activity from the others. Nevertheless, some subjects showed a voluntary expenditure of money for the job. This showed up differently for the teachers as compared with the businesswomen. The businesswomen spent money on other employees or for employee get-togethers. It was really a social interest, with the employees of the same firm forming the social group. The teachers spent money on the other teachers for special gifts and entertainments and also for weekly get-togethers, but they also spent money for instructional materials or for the children. In other words, they spent money for the job itself.

On the whole, one can conclude from the picture presented by these diaries that if the Time or the Money Scale is carefully applied to ongoing behavior, the vast majority of a person's values will show up on both.

2. Did the same values show to the same degree on both scales?

It has already been stated that no fine computations were made to quantify the data. Several methods were tried and abandoned, such as: (1) Amount of time as a percentage of 24 hours. (2) Amount of time as a percentage of leisure time. (3) Raw amount of time. (4) Amount of money as a percentage of total income for the two-week period. (5) Amount of money as a percentage of money left after board and room were deducted. (6) Amount of money as a percentage of the total amount of money spent during the two weeks. (7) Raw amount of money.

Since the subjects were being compared with themselves rather than with one another, the raw amount of time and the raw amount of money would logically make as good indices as the others. This method of computation was not carried through because of the difficulty of assigning time and even money exactly, and partly because the general results were obvious without the precise quantification. Moreover, the precise quantification would probably not yield a measure of difference which would be sufficiently reliable.

The findings are listed below in the same manner as were those with regard to the location of values on the two scales.

a. A great deal of the difficulty of quantification was due to the fact that though time taken to get to an activity should normally be included on its time score, yet with these subjects walking was itself so valued that it could not be thought of as merely part of the activity the person was going to or coming from. J. N., who took half an hour to walk to an hour's lecture on music which the teachers of her school were expected to attend, and then took one hour to walk home from the lecture, should not validly have all this assigned to her music score nor even to her school score.

b. Furthermore, though most of the diaries were kept with great care, one could not expect that the record of time would be more than an approximation except in those cases where the activity recurred at the same time every day. Though the subjects had been asked to record events immediately upon their occurrence, they did not all do so. One of the most carefully kept diaries has a daily notation, "Wrote in diary, went to bed."

c. Quantification on the Money Scale ran into all the difficulties that were mentioned in the previous discussion on location by the Money Scale, except that the difficulties appeared more frequently. It was previously observed that there were few values which appeared on one scale and not at all on the other. However, there were many values which took a great deal of time and very little money so far as the diary indicated, though in point of fact a good deal of money must have been expended. F. G.'s expenditure of more than 22 hours in sewing distributed over 26 periods of time was accompanied by an expenditure of only 15 cents for thread, 15 cents for seam binding, and 25 cents for a zipper. When it is known that F. G. makes all her own clothes, then it can be inferred that at some time she must have spent money on materials. It can of course be argued that the money expenditure should be assigned to clothes as the value and not to sewing. But F. G. sews for members of the family as well as for herself; she often makes a new dress because she has thought up a variation of a design and wants to see how it will work out. Her sewing is never hurried in order to get the dress finished. To describe the situation accurately, one really has to name by *both* values rather than by one.

d. The time of the year when the diaries were kept accounted for low scores on a number of items which, if the scales had been applied for a year, would have indicated much higher scores. It has already been stated that the subjects did not spend anywhere near $2/52$ of their salaries during this fortnight, even when we add in a share of items paid by the year, such as insurance, which they were asked to list on the first page. Clothes, for instance, are bought at different seasons and not regularly throughout the year. In the vast majority of cases, expenditures for clothes were very small, but time taken to dress and to take care of clothes was considerable. On the whole, this group of subjects has a reputation for spending a fairly large proportion of their salaries on clothes.

e. An obvious reason for finding that the Time Scale and the Money Scale do not bring the same quantifications is that a thing costs a certain amount which is not necessarily relative to what a specific individual is willing to pay for it, nor to the time the thing he is buying will endure. Persons who do not have to pay more than 60 cents for a two-and-a-half-hour motion picture show and often need pay no more than 25 cents, may have to pay at least \$1.65 for an hour's concert. In these cases, comparing the individual with others in the community for whom the same conditions obtain may give added meaning to the amount expended.

f. Since groups of these subjects had about the same income, the same vocation, the same socio-economic status, and the same environment, some comparisons could be made between them. It was found that the ratio of time to money spent on an activity was not the same for all subjects. In fact, there were considerable variations. This was to be expected. Some who spend little time on buying clothes spend a lot of money. In fact, it may take much less time to buy clothes if you are ready to spend more money for them. It will also take less money if you are ready to spend a lot of time to make certain alterations yourself. J. E. is an instance of a woman who spends a great many hours remaking the clothes she has just bought but who spends little money on them. In this case an interest in sewing combines to keep the time-money ratio for clothes what it is. When volunteering to work for the Red Cross, this subject rejected knitting in favor of sewing.

The same sort of thing holds true in entertaining for friends. Of the group with the same income, some would spend more money and little time in preparation by buying everything from a caterer; others would spend a great deal of time in preparing refreshments, and much less money. Moreover, the ratio of time to money that will be expended is sufficiently stable with some of the subjects so that it is a popularly recognized characteristic.

In summary, the conclusion that can be drawn from the analysis of the diaries is that Time and Money will not quantify similarly. This is to be expected in cases where there is a great deal of money so that there is really no choice of spending for this rather than for that unless time is also involved. It is also to be expected in cases where there is so little money that there is no choice because the money goes for the bare necessities of food, clothing and shelter, which do not take up all the time. The rest of the time must, therefore, be spent on activities which necessitate no expenditure of money on the part of the individual engaging in them. The data provided by the diaries showed that subjects who were in a fairly high income group compared to other single individuals of their community, and who had room for choice and necessity for choice as to how their money would be spent, showed most, though not all, of their values on both the Time and the Money Scale, but that the score for any one value, no matter in what manner it was quantified, was not the same on both scales.

B. Time and money compared: the verbal test

In the record of ongoing behavior described in the previous

section, the subjects made or created choices within the possibilities of the situations in which they found themselves. What was chosen is evident to the person analyzing the record; what was rejected or not even noticed can only be inferred. The same alternatives sometimes did, and sometimes did not, repeat themselves. The situations differed for the different subjects. For any one subject, the same specific behavior could be repeated day after day.

The verbal test, asking the subject what he would do, obviously could not ask him to choose from among the same specific alternatives time after time. The only way to get more than one instance of the same value was to quantify in terms of general or class values, and to present alternatives which were specific cases of these class values. Three class values were chosen:

Physical Activity (P)—the interest in physical activity, in sports.

Theoretic-Scientific (T)—the interest in the how of things, in the sciences.

Aesthetic (A)—the interest in music, art, literature, and in the form or beauty of the object or event.

These three values were chosen with the population to be tested—students of Grade IX—in mind. These are three interests which the school encourages the students to pursue. The outside environment also offers many opportunities to engage in them. They could be defined so that there was no overlap between them. They could be defined so that the specific items assigned to each class value did not have to be validated by criterion-groups. Item validation by criterion-groups was impossible, since such validation would have destroyed the purpose of the test, which was to compare the value-scores received on the How-would-you-spend-your-time half of the test with the value-scores received on the How-would-you-spend-your-money half of the test. Had the test items been validated by criterion-groups, the two halves of the test would necessarily have a high agreement.

Twenty-eight situations were presented to the subject, in each of which he had to make his choice of one out of the six alternatives offered—two of the alternatives represented the Physical Activity value, two represented the Theoretic value, and two represented the Aesthetic value. Two alternatives for every value were decided upon so as to offset a possible general unpopularity of some specific item. The fourteen situations which asked the student on which alternative he would spend his money often also necessi-

tated a large expenditure of time. In each situation the amount of time involved or the amount of money involved was made similar for each of the six alternatives. Situations and alternatives were set up with an eye to the age of the subjects, their environment, and the time when the test was to be given.

The population tested. Two hundred and three boys and girls of Grade IX of a junior high school in New York City were tested during 1939, the year of the World's Fair. The test follows:

WHICH WOULD YOU DO?

A Questionnaire for High School Students

Fill out the following:

Name: _____ Boy or Girl _____ Age _____

Grade: _____ School _____ City _____

You will find in the following pages a list of questions asking how you would choose to spend your time, and another list asking how you would choose to spend your money. Lists of questions of this sort are called questionnaires. They are different from tests because they do not ask a person to tell what he knows since they are not interested in finding out what he knows. A questionnaire such as this one is filled out correctly by every person who answers it as long as he tells truly what he would do. Questionnaires are used for different purposes. This one, which is being given to a great many high school students, will be used to help make a high school program of studies and of extracurricular (after-school) activities that will appeal to all of the students.

DIRECTIONS FOR ANSWERING THE QUESTIONNAIRE

You have before you a number of questions. Under each question there are six possible answers. You are to check *only one* answer for each question by placing a check mark on the little line in front of that question, like this ☒. Imagine yourself in the position described by the question. Then look at the six possible answers and check the one you believe you would do if you actually had to choose between doing one or the other. You must make up your mind on every question. As there are 14 questions in each part, you will have 14 check marks for Part I and 14 check marks for Part II. Here is an example of a question which is not on your list and of how one student answered it.

Example: You are planning a class party. Several suggestions have been made as to the kind of party it should be. Check the one that you would vote for.

- _____ (1) An all-day picnic
- _____ (2) An indoor party with games and dancing
- _____ (3) A party at one of the beaches
- _____ (4) A masquerade party
- ☒ (5) An indoor party with a program of music and recitations and also dancing
- _____ (6) A long hike in the afternoon with supper cooked and served around a campfire

Peter imagined himself in that class and believed he would want party number 5, so he put a check mark in front of the 5. There were some students who answered like Peter and there were other students who chose other answers. *Each student checked the one thing he thought he would be most likely to do if he actually had to do it instead of its being just a question on paper.*

Now turn to the questions, and in each case check the one thing you would be most likely to do. *Be sure to answer every question.*

Part I

HOW WOULD YOU SPEND YOUR TIME?

1. Your class is entertaining visiting high school pupils from all over the state who have come to your town for a Convention of High School Clubs. Each member of your class becomes a specially appointed guide to take several of these students to some special point of interest. Your school will pay all the expenses involved. Check the one point of interest for which you would like to be the guide.

- (1) Metropolitan Museum of Art
- (2) Museum of Science and Industry
- (3) A baseball game being played between two high schools
- (4) The latest WPA marionette show
- (5) The most up-to-date equipped gymnasium in the city
- (6) The Hayden Planetarium

2. You are applying for a position as counselor at a summer camp for young children. Check the camp position you would most like to get.

- (1) In charge of natural science excursions
- (2) Swimming instructor
- (3) Counselor in charge of dramatic entertainment
- (4) Athletic and games director
- (5) In charge of excursions to places of historic interest in the neighborhood
- (6) In charge of group singing and of the drum and rhythm band

3. There are many famous people coming to America on the same boat. You want to try to get some autographs when the boat docks. You are going to wait several hours to make sure that you get to the celebrities before they are mobbed. From which one of the following are you going to try to get an autograph first?

- (1) Olympic games winner
- (2) Conductor of your favorite concert orchestra
- (3) Nobel Prize winner for science
- (4) Nobel Prize winner for literature
- (5) Professor who has just written a book called *Why We Behave Like Human Beings*
- (6) Tennis champion

4. All the high schools in your city are having a convention which you attend. There is a general meeting in the morning but in the afternoon the convention breaks up into the following smaller meetings all held at the same time in different rooms. All these meetings are demonstra-

tions of the best work done in high schools in different fields. Which one do you plan to attend?

- (1) Demonstration of various chemistry and physics experiments performed by high school students
- (2) Oral interpretation of literature including choral speaking by various school verse choirs
- (3) Badminton and ping-pong demonstration games
- (4) New York calling London—a demonstration of how trans-Atlantic telephone messages are sent and received. Models constructed by one of the high schools will be used
- (5) Demonstration of the use of newest gym apparatus
- (6) An actual demonstration of the painting of a mural

5. In some cities the high school students take over the city government and the running of all the city services for one day. If this were done in your school check the city position you would like to have for that day.

- (1) Head of playgrounds and recreations division
- (2) Head of the public library
- (3) Head of the art gallery
- (4) Head of the museum of natural history
- (5) Head of the "Make Your City Beautiful" campaign
- (6) In charge of beaches and swimming pools

6. You have time to listen to one radio program before going to bed. The following programs are on. Check the one you would tune in.

- (1) "Between the Bookends"
- (2) "Sports News and Flashes"
- (3) "The Fact Finder"
- (4) Hockey game
- (5) "Words and Music"
- (6) National Education Association program

7. Your school is giving a program for parents and friends which is to demonstrate the work of the school. Check the demonstration in which you would like to be.

- (1) Basketball game
- (2) Short one-act play
- (3) Debate on a modern problem
- (4) Gym apparatus work
- (5) Showing by pictures and charts your findings on a project which your school has been working on
- (6) School choir or orchestra

8. Your principal has invited professors from the college which most of you are going to attend upon graduation to speak to you about the college and the courses it has to offer. You are inviting them to a luncheon first and you are in charge of the seating arrangements. You decide to have as many tables as there are professors, so that there is only one professor at each table together with a number of students to whom he can talk and who may ask him questions. Check the professor at whose table you are going to seat yourself.

- (1) Professor of Fine Arts

- (2) Professor of Psychology
- (3) Athletic coach
- (4) Professor of Music
- (5) Professor of Physical Education
- (6) Professor of Mathematics, or Professor of Biology

9. You have a library period at school and you may choose any magazine you like to read. The following are available. Check the one you will take to read.

- (1) The World's Work
- (2) Outdoor Americans
- (3) Poetry Magazine
- (4) Physical Culture
- (5) Science and Invention
- (6) Arts and Decorations

10. Your class is interested in seeing how up-to-date a model city you can construct. This is a model city as you think it ought to be. At the present stage of your study, the following projects have to be worked out. Check the one you wish to work on.

- (1) Planning of outdoor recreational facilities and the equipment needed for them—playgrounds, ball fields, etc.
- (2) The general layout of the city, its streets, parks, buildings, etc., with a view to making it beautiful to look at
- (3) Planning the school, libraries, and colleges needed for the expected population
- (4) Planning the architectural style of the buildings
- (5) Making the plans and blueprints for wiring the city for the best service, also for laying the water and gas mains
- (6) Planning the public gymnasiums and the equipment needed for them for serving the total population

11. You have been elected to the Student Council of your school. Each member of the Council has a special job to look after. The chairman of the Council wants to appoint the members to the jobs they most like. Check below the one committee you would prefer to be chairman of.

- (1) Chairman of the Debating Committee. You have to arrange group discussions as well as debates
- (2) Chairman of the Dramatic Programs Committee
- (3) Chairman of Inter-school Games
- (4) Chairman of the Excursions Committee, which plans trips to various industrial plants and service establishments to see how these are run; e.g., to the research laboratory of a rayon manufacturing plant
- (5) Chairman of the Athletic Committee
- (6) Chairman of the Music Committee

12. You are asked to write on one of the following topics. Check the one you will write on.

- (1) They Were Olympic Champions
- (2) Seekers after Truth
- (3) Beauty Is Everywhere
- (4) Ideas That Have Changed the World

- (5) Painting with Words
 - (6) The Most Exciting Match I Ever Attended
13. You have joined a neighborhood club that as yet has no definite program. The leader asks you to check one of the following as the main thing to do for the year.
- (1) Turning the club into a dramatic club
 - (2) Turning the club into an athletic club
 - (3) Making regular trips to museums and other exhibits, trips that will add to your knowledge about our world
 - (4) Turning the club into a hiking club
 - (5) Learning more about, and getting more opportunity to enjoy good art and music and literature
 - (6) Turning the club into a discussion club and occasionally inviting speakers to talk to you on such subjects as evolution, modern economic theories, how our minds work, etc.
14. You are alone one afternoon and have time to do something you particularly want to do. Which of the following would you be most likely to do?
- (1) Practising your tennis shots against a wall or practising pitching a ball exactly in the spot where you would like it to go
 - (2) Do some sketching or painting or clay modeling or wood carving, or practise the piano or violin or any other musical instrument that you play
 - (3) Go to the library to get the answer to a question that has been bothering you for a long time
 - (4) Go roller skating or bicycle riding
 - (5) Read the latest book on world affairs
 - (6) Fix up your room so that it looks nicer than it does now

Part II

HOW WOULD YOU SPEND YOUR MONEY?

1. You have an out-of-town cousin whom you are entertaining. You have 50 cents which will pay the entrance fee for both of you to any of the following. Check the one you will treat your cousin to.
- (1) Inter-school basketball or baseball game.
 - (2) The radio-television show which is on that day
 - (3) The flower show which is being held that day
 - (4) The Hayden Planetarium
 - (5) A special art exhibit showing the work of young artists under 18 years of age
 - (6) Rowing in the park
2. For your birthday your mother gives you enough money to buy any one of the following for yourself. They all cost the same. Check the one you will buy.
- (1) One of the "Ask Me Another" books which contains about 1,000 questions and answers
 - (2) New baseball gloves, or a pair of skates, or a tennis racket
 - (3) A picture for your room; you have none up yet

- (4) A new bathing suit
- (5) A subscription to a magazine which discusses the meaning of current events
- (6) A book of poetry

3. You are in the graduating class of your school and you collect money to give to the school for some one thing. Each pupil is contributing \$2.00. The class has decided to vote on the following. Check the one you would vote for.

- (1) Trophy for sports
- (2) Recordings of fine music for the school music collection
- (3) Something needed by the science laboratory
- (4) A statue or picture for the main hall
- (5) A set of encyclopedias for the library
- (6) A contribution of money for the new ball field that is going to be built if the school itself can raise the money

4. You want to take an aptitude test, that is, a test which will tell you whether you have enough ability in a field to go on studying in that field so that it will become your vocation, your profession or job. These tests cost \$5.00 each. Check the one for which you would be willing to spend your \$5.00.

- (1) Test to see whether you are at all suited to be a high school teacher or college professor
- (2) Test to see whether you will have any success if you go in for drama, fiction, or poetry writing
- (3) Test to see whether you are at all suited to be a physical education teacher
- (4) Test to see whether you are at all suited to do research work
- (5) Test to see whether you are at all suited to be a director of sports, or a coach
- (6) Test to see whether you are at all suited to go in for interior decorating, or else costume designing

5. You have saved up \$1.00 and you feel that you would like to contribute it to some cause which your Community Center is interested in. To which one of the following funds will you give your dollar?

- (1) Fund for athletic and playground equipment for the Community Center to which you belong
- (2) Fund for scholarships for college students. Your Community Center gives as many of these scholarships every year as it has money in its fund for
- (3) Fund for redecorating the Community Center. It is a rather drab place now
- (4) Fund for buying dictionaries, encyclopedias and other reference books for the study room of your Community Center, where you may always go to do your lessons
- (5) Fund to support the orchestra which will give free concerts on the roof of your Community Center in the summer and to which everyone in the neighborhood may go
- (6) Fund for building a swimming pool in your Community Center

6. In the newspaper which you get in your home, there are coupons which you may clip. Fifty coupons and 93 cents will get you any one of the following premiums. Check the premium for which you are going to save your coupons and money.
- (1) A set of records of the world's finest music
 - (2) A tennis or badminton racket, or a ping-pong set consisting of the net, two bats and two balls
 - (3) A set of books called the "Wonderland of Knowledge"
 - (4) Ice skates or roller skates
 - (5) A set of reproductions of some masterpieces of art
 - (6) An encyclopedia of modern science
7. For the price of your entrance to the World's Fair and 10 cents extra, you are allowed one of the following souvenirs. Check the one you will buy.
- (1) A soft ball, or a baseball, or a tennis ball, or a golf ball with a picture of the World's Fair painted on it.
 - (2) A song (words and music) in honor of the Fair. This will be the Fair's theme song.
 - (3) A chart of the Fair locating all the buildings and giving all the figures about them; that is, their size, cost of construction, etc.
 - (4) A hi-li bat or ping-pong bat with the World's Fair stamped on it
 - (5) A souvenir booklet of the Fair describing how some of the special exhibits were operated; e.g., production of silk, making unbreakable glass, etc.
 - (6) A large colored photograph of the Fair grounds at sunset
8. If you had to pay a 15 cent a month (\$1.50 a year) membership fee, which of the following school clubs would you join?
- (1) Music and Dramatic Club
 - (2) Science and Research Club
 - (3) Athletic Club
 - (4) Fine Arts Club—painting, modeling, wood carving, etc.
 - (5) Outdoor Sports Club
 - (6) Debating Club—and Forum Society—you have discussions and lecturers are invited to give talks
9. Your neighborhood Community Center is running a series of talks given by different lecturers. The cost is 50 cents for each lecture. You can afford to go to only one because you have only 50 cents. Check the one you will go to.
- (1) "New Ways of Thinking"
 - (2) "Champions I Have Known"—by a sports writer
 - (3) "Making Life Beautiful"
 - (4) "Sports As Played in Out-of-the-Way Places"
 - (5) "How Can We Tell That a Fact Is True?"
 - (6) A poet will speak about poetry and will read some of his own poems.
10. Through your school you may subscribe to any of the following magazines for only \$2.00 a year. Your parents give you the \$2.00 for one subscription. Check the one you choose.
- (1) Physical Culture
 - (2) Arts and Decorations, or the Home Beautiful

- (3) Educational Digest
 - (4) Modern Drama and Verse
 - (5) Current History
 - (6) Sports Story
11. Through your newspaper you can join a Hobby Service which will provide you with regular information about your hobby and answer any questions you may have about it. The fee is \$1.00 a year. Which Hobby Service will you join?
- (1) Illustrated information about the latest inventions
 - (2) How to take beautiful photographs with an ordinary cheap camera
 - (3) In the winter, all information about National League Hockey games, and in the spring and summer, all information about National League Baseball games
 - (4) A page of odd facts sent to you every other week
 - (5) Helpful hints on improving your technique in various sports
 - (6) A service to which you can send your stories or poems or plays or music compositions or paintings for helpful criticism and advice as to how to improve
12. The following exhibits at the Fair are each 25 cents entrance. You have only 25 cents so can enter only one of these. Check the one you will spend your money on.
- (1) Exhibition of fancy diving
 - (2) Exhibition of a robot, how it moves and speaks
 - (3) Exhibition of well-known works of art brought from many countries
 - (4) An educational film—the evolution of man from the beginning of time to the present and also what he may become in the future
 - (5) A performance on the color-organ. Instead of music being played, this organ plays colors. You see a whole symphony being played in colors but you are not told how this organ works
 - (6) Tennis match played by local champions
13. You have earned \$1.00 by doing a special job. On which of the following will you spend it?
- (1) Spend your dollar for renting a horse and trying to ride, or for paying for a rowboat in the park
 - (2) Buy a ticket to a lecture by a world famous psychologist about whom you have been reading in the paper
 - (3) Buy a ticket to the opera. You can get one for a dollar
 - (4) Buy a book of the "Dollar Series" which discusses various theories that have been put forward to better the world
 - (5) Buy some music or some painting materials or crayons
 - (6) Buy a ping-pong bat, or a baseball bat, or have your tennis racket restrung, or pay for repairs on your bicycle
14. You have \$2.00 to buy a book that you want. Check the type of book that you will buy.
- (1) An illustrated book giving exercises that develop a strong and co-ordinated body
 - (2) A book of poetry or an illustrated book on art
 - (3) Essays on ideas that have influenced the world
 - (4) The biography of a sports champion

- (5) A one-volume encyclopedia
 ----- (6) A book that you like because of its beautiful binding

Results. The method by which the test was constructed meant that each subject made a total score of 14 on the Time half of the test and a total score of 14 on the Money half of the test. Differences between pupils showed in the scores they made for each of the three values separately. Differences between the two halves of the test showed in a similar manner. The rank order of the three values is therefore the main basis for comparison.

Agreement of Rank Order of Values on Time and on Money Scales

	No. Persons	% (203 cases)
All 3 values in same order	112	55
Highest value the same on both scales.....	142	70
Lowest value the same on both scales.....	147	72
Only highest value the same on both scales....	30	15
Only lowest value the same on both scales....	35	17
Highest and lowest values interchanged.....	4	2
None of the values in same position	22	11

One hundred and twelve, or more than half the subjects, indicated the same rank order of preference for the three values on both the Time and the Money Scales. Only 4 who had the highest value on one scale appear as the lowest on the other, while the lowest at the same time moved up to highest position. In only 22 cases were none of the values in the same position on the two scales. The two halves of the test are thus seen to agree quite well.

Differences between the two scales can be measured in point scores as well as in terms of rank order of the values. There were 142 cases *where the same value ranked highest on both scales*. The differences in point score for the highest value in these cases were distributed as follows:

	No. Cases	Cumulative %
Difference was 0	24	17%
Difference was 1	43	47%
Difference was 2	42	76%
Difference was 3	18	89%
Difference was 4	12	98%
Difference was 5	2	99%
Difference was 6	1	100%
<hr/>		
Total cases where highest score was for same value	142	
Mean difference in score between this value on the Time Scale and on the Money Scale...	1.7	

With only a 1.7 mean difference between the highest scores on the Time and Money Scales when these scores were for the same values, and with 76% of these differences being 2 or less, whereas the highest possible difference of this type was 9, we have another indication of agreement.

Still another method of comparison is to disregard the rank order of the values and to compare, for each of the 203 subjects, his two P scores, his two T scores, and his two A scores. It was found that:

The mean of the differences between the P scores was 2.04

The mean of the differences between the T scores was 1.90

The mean of the differences between the A scores was 1.75

The mean of all the 609 differences was 1.90

The 1.9 represents the mean difference between the two scales for a single value. We can also find what the sum of the three differences for each individual was, and then find the mean for the group. This comes to 5.7. The smallest possible sum of the dif-

TABLE III
GROUP SCORES ON THE TIME AND MONEY SCALES

	P	Values T	A
Boys (96)			
Mean Time Score	6.59	4.86	2.54
Mean Money Score	6.86	4.96	2.18
Differences27	.10	.36
Girls (107)			
Mean Time Score	5.49	3.42	5.09
Mean Money Score	4.99	3.80	5.21
Differences50	.38	.12
Total Group (203)			
Mean Time Score	6.01	4.10	3.89
Mean Money Score	5.88	4.35	3.77
	.13	.25	.12
Boys' Mean Time Score	6.59	4.86	2.54
Girls' Mean Time Score	5.49	3.42	5.09
Differences	1.10	1.44	2.55
Boys' Mean Money Score	6.86	4.96	2.18
Girls' Mean Money Score	4.99	3.80	5.21
Differences	1.87	1.16	3.03

ferences for all three values for one person was 2 if there was a difference, the next smallest was 4, and the next 6, while the largest possible sum of the differences was 28.

The comparison which has been emphasized thus far has been the one between how a person scored on the three values on the Money Scale and how the same person scored on these three values on the Time Scale. Group scores for each of the values were also obtained and are shown in Table III. It will be seen that the differences in the group scores which the values obtained on the two scales were exceedingly small. A difference of .5 for the girls was the highest difference obtained. On the other hand, the differences between the boys' scores and the girls' scores ranged from 1.10 for the P value on the Time Scale to 3.03 for the A value on the Money Scale. Moreover, the differences between the boys' and the girls' scores are in the same direction on both scales for each of the values, and on both scales it is on the Aesthetic value that girls show the greatest difference from the boys.

Conclusions. Although the items for the verbal test were not selected by any method which would tend to make the scores on the Money half of the test agree with the scores on the Time half of the test, nevertheless such agreement was close for the individual students and exceedingly close for the group as a whole. On both scales there was a difference between the sexes in the expected direction, the girls showing about the same preference for the Aesthetic as for Physical Activity, with the Theoretic-Scientific value in lowest position, the boys showing the greatest interest in Physical Activity followed by an interest in the Theoretic-Scientific, with the Aesthetic in lowest place. It would seem, therefore, that when hypothetical situations are presented to a person in such a manner that he has the task of choosing from the same alternatives when he has money to spend as when he has time to spend, and when the amount of money or time to be spent on the alternatives is equalized, then a person will make similar value choices on both the Time Scale and the Money Scale.

CHAPTER XVI

CONCLUDING STATEMENT

HAVING reached the point where the present inquiry is about to be broken off, it is well for us to go back over the argument to see what part of the problem was investigated and where the analysis was lacking or inadequate. Throughout the sequence of chapters there have been two recurring emphases. The iteration that a fundamental understanding of what constitutes measurement in the field of values must be acquired prior to any attempt at refinement of quantification has been accompanied by frequent expression of the belief that many apparent difficulties will disappear when measurement is discussed in terms of purposes rather than in abstraction. Beginning with the problem of the location of values, because as a problem it is prior to that of quantification even though in measurement both steps may be carried out simultaneously, we found that the establishing of certain general indices of value, such as how a person spends his time, is only one of the main problems. Another, just as important, is the proper classification under one name of those specific values which have been located. Though the "whole" person may be concerned in any one of his acts, he necessarily behaves in specific fashion differing from one occasion to the next. The differences between his specific activities may be either exaggerated or minimized by the observer. The finding of a general characteristic which will unify a set of variable behaviors and which will allow them to be added together under one name depends, we have pointed out, as much upon the purpose of the investigator as upon the nature of the individual being measured.

Further, the point of view adopted by the present inquiry was that valuing is a behavior. It was therefore urged that more attention be paid to establishing valid behavior value-scales of all kinds. A variety of such scales is needed both because different scales will better serve different purposes and because certain values can be measured by one scale but not by another. The primary problem

of quantification was thus also seen to be in terms of behavioral significance. It is necessary that scale scores have some empirical meaning other than just being greater or less than another score on the same scale. The fact that behavior scales do not lend themselves as readily to refinement of quantification as do verbal scales may be in their favor rather than a limitation which lessens their usefulness. The coarseness of some of the behavior scales may nevertheless permit them to distinguish all the possible degrees of value-behavior which can be displayed in real situations. It might be that verbal scales, with finer units, would be useful at times to tell whether the individual was close to the previous step on the behavior scale or nearly approaching the next step. But these verbal scales can be useful only if they have been validated by a behavior criterion. A verbal scale, with ever so many small units marked off, will get its value not so much from the fineness of the units as from critical points along the scale that show its calibration with a behavior value-continuum. At the present stage of value-quantification too great a refinement of measurement does not seem to be a fruitful undertaking.

Very little attention has been paid in this study to the comparison of the value-scores of different individuals nor has the measurement of groups received much consideration. Although the chapter dealing with the assignment of value-quantification did, as was indicated, really deal with group scores, its content was little more than a summary of present methods employed with verbal scales. When the problem of comparing one person with another on character and attitude traits was examined closely, it seemed to the writer that the difficulty of making the comparison was largely due to the fact that there was in most cases too little meaning to the score assigned to any one individual and to the fact that the comparisons were made in the abstract with no definite purpose in mind. In achievement testing, the tendency has been more and more to do away with scores which have absolute meaning (this score means that the subject can do such and such) and to substitute scores which have meaning only in terms of comparative ability within a specified group. Mary's percentile score of 90 in spelling does not tell us whether she will be able to type her shorthand notes with not more than one error in five letters. It is supposed to indicate that she will have fewer errors than Jane, whose spelling score is only 75. Their prospective employer probably cares little how the two girls compare with each other and a great deal as to whether they can spell adequately for the job. Similarly,

in value-measurement the tendency also has been to search for scores which would be comparable with one another without much attention being given to any further meaning for those scores. When Allport and Vernon introduced their Study of Values, the scores of which are not derived in terms of comparative standing within a group, they themselves hesitated to claim that subjects could be compared with one another. Profile scores when valid represent part of the individual's hierarchy and therefore we can tell what his "choosing behavior" will be. *A* acts in a certain way because he values *X* more than he values *Y* and not because he values *X* more than *B* does. If individual profile or hierarchy scores have behavioral meaning in and of themselves, then they are necessarily comparable with one another. We have, of course, to determine in what way it is that they are comparable. A quart of oil and a quart of water are equal in volume but not in weight. The problem of the comparability of scores obtained by different types of scales should not be confused with the problem of comparing scores that different individuals obtain on the same scale. Frequently when we say that scores obtained on the same scale are not comparable, we really mean that they are not comparable in terms of some other scale. Ten subjects who each obtain a choice-ratio of 12:4 for values *X* and *Y* ought also to spend more time on *X* than on *Y*, but the amount of time that each spends on *X* may vary widely. Expressions of intensity of feeling (if used as value-indices) may also give quite different scores to the above ten individuals who had similar choice-scores. If, however, the verbal expression of intensity of feeling is a valid index of value, then each of these ten subjects should have a higher intensity score for value *X* than he has for value *Y*. One should also be able to say of continuum-scales which measure one value at a time that a score of +8 for value *X* and a score of +5 for value *Y* obtained on the same scale means that *X* is valued more than *Y* according to the definition of more and less on that scale. Since this would hold true, if the scales are valid, no matter who it is that gets the scores of +8 and +5, then scores on such scales are comparable for different individuals. The greatest confusion as to the comparability of scores comes from the fact that value can be measured along different value-dimensions by many different types of scales. What seems to be needed is intensive research into the relationships which exist between different value-dimensions. In this area of inquiry, the comparisons made by the writer between Time and Money Scales have already shown that *A*'s hierarchy produced by the one scale

may differ from his hierarchy produced by the other scale because objective conditions do not always make it necessary for money to be expended proportionately to one's readiness to spend if all the goods were of equal monetary value. This means that money-scores turned into a preference hierarchy are not comparable with one another in terms of preference "in general" or preference derived from some other scale. It is true that meaningful scores in terms of one dimension (or scale) of value can be useful even when they do not translate themselves into the same relative position on another dimension of value. Nevertheless, the more one value-dimension is translatable into another value-dimension, the more useful the value-scores will be.

In the comparison of different scores, educators have not been satisfied merely to be able to rank individuals *A, B, C, D, E* properly; they also have wished to determine whether the distance between *B* and *C* is the same or different from the distance between *D* and *E*. The value of the desire for scale units such that equal intervals can be measured off has rarely been questioned. One of the reasons offered for such a desire is that if equal scale intervals could be obtained, then the comparative effect of educational procedures which seek to influence these scores could be determined.¹ It is surprising that anyone should hold to the assumption that a teaching method which raises a score of 10 to one of 20 is a more effective method necessarily than one which raises a score of 50 to a score of 52. Equality of intervals, no matter what the type of scale on which the intervals are marked off, cannot also mean equality of ease in changing the score unless the intervals have been made equal in terms of how difficult it is to raise and lower the scores representing different steps on the scale.

Comparability of scores and equality of intervals have also been sought as necessary conditions for arriving at group scores. Since intervals on any continuum-scale are equal only according to some arbitrary criterion and do not represent equal portions of the property being measured, we must ask ourselves whether the marking off of equal-appearing intervals lessens the difficulty of arriving at meaningful group scores with regard to intensive magnitudes. By and large, educational measurement has searched for group scores comparable with other group scores. In value-measurement, the value-hierarchy of a single group may be a quite adequate basis for guiding that group even when no other group has

¹ Thurstone, for instance, sets forth this claim for his scales. (L. L. Thurstone and E. J. Chave, *The Measurement of Attitude*, p. 82.)

been measured. Moreover, group value-scores, though they are always derived from the behaviors of individuals, need not be derived from the scores of individuals plotted separately. For certain values and certain purposes the "average" of individual scores may not be as good a representation of the group score as some collective technique based on the behavior of the group as a whole. Thorndike² has used such techniques in his measurement of the goodness of cities, but on the whole there has been very little attempt to construct group scales. One group scale which does enjoy popularity is the division of the total national expenditure into the proportions spent for various goods and services. The construction and use of group value-scales would seem to be another area of needed experimentation.

From a totally different angle the present investigation has to the writer a weakness much more bothersome than its failure to deal adequately with the comparability of scores and the derivation of group scores. For though the writer holds very definitely to a gestalt view of personality, the discussion and the suggested techniques have at times seemed to turn personality pretty much into a set of elements. Some of this elementarism may be more apparent than real. If personality is going to be measured at all, it cannot be measured as a whole. The techniques must, however, take into account the pattern of motivation. If the value-pattern forms a mosaic rather than a hierarchy, then the measurement techniques which force a value-hierarchy upon a person are invalid. Observation of individuals shows that their value-pattern is certainly not a simple hierarchy changing from time to time to a different hierarchy. Nevertheless, the value-pattern does contain hierarchical structures within it. How prevalent these hierarchical structures are depends partly upon the extent to which objective conditions force the individual to make certain types of choices and to stick to those choices. There are many occasions when life does not demand that a single value such as *W* or *X* or *Y* or *Z* must be chosen. It may be that if you give up *X* you can have *W* and *Y*. None of the suggested scales took into account the value of a combination of values. There is no logical way of deducing from the hierarchical positions of each of two separate goods the position on the preference scale of the two goods combined. If choice in most situations does not mean accepting this one value rather than that one value, but means retaining this pattern of values rather

² Edward L. Thorndike, *Your City*.

than that pattern where the two patterns have many (often a vast majority of) overlapping elements, then is there much use in determining whether *A* prefers *X* to *Y*? It was to overcome some of the difficulty of measuring reaction to a total situation that the writer suggested experimentation with scales which can be applied in non-laboratory situations, scales which, though they do measure single values, measure them as they manifest themselves within the total complex of the behaving personality. For the same reason, the writer urged that values be named according to the wholes of the objective universe since these objective wholes force upon the individual a patterning which he cannot escape. Yet despite the fact that we must "break up the personality" to measure it, it may be that the measurements which we do obtain are a great help to the counselor who wishes to guide the conduct of the persons being measured. Since it was with a view to extending such aid that this inquiry was undertaken, its contribution will be great or small, according to the help which the criteria it embodies gives to the educator who uses them as a basis for obtaining a picture of the value-configurations of his subjects. Apart from any such immediate usefulness, the inquiry will prove fruitful to standardized measuring techniques if it is followed by more detailed research in each of its several phases. Every preliminary investigation must be sufficiently extensive to lay out the web of problems the solution of one of which depends upon the solution of the others. This necessary extensiveness keeps the solutions which the inquiry touches upon also in a very preliminary stage. For this reason much of the discussion pursued in this volume failed to arrive at more than tentative conclusions, and the proposed scales were in the nature of framework rather than of finished structure. It is hoped that with the principles which the present exploration may have clarified and with the initial outlines of the suggested value-scales, further research will be able to erect a number of useful value-measuring instruments.

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